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The 2nd International Congress on Reproduction

ISERB 2016

Abstracts

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In the Name of God

International Congress on Reproduction-ISERB 2016

2nd ISERB Award of
Excellence in the Field of Reproduction
18-20 May 2016

Iranian Society of Embryology & Reproductive Biology 2016

Contents

The authors will bear full responsibility for the accuracy of their English abstracts.

A Message from Chairman of ISERB

Iranian Society of Embryology and Reproductive Biology (ISERB) has been very effective in order to help recognizing its updated science to the scientific Iranian public with its effort and hard work and offering affective methods in therapy and healing for the country since the first day of establishment in 2011 till today. Activities of the Society resulted in updating the knowledge day by day in the country and created huge changes in the field of embryology and reproduction which opened new horizons for doctors, scientists, researchers and therapists in evaluating and research areas.

Having held the first international congress of reproduction in June 2015, the Society was met successfully by experts, students and with the help and the efforts of researchers in the departments of embryology, reproduction and latest achievements on this matter, the second congress is about to take place in late May. Simultaneously, ISERB 2nd Festival of Excellence Award is about to take place with cooperation and innovation of universities as well as research centers.

ISERB 2nd Festival of Excellence Award in Reproduction lays the ground for expanding the awareness and new ideas on reproduction. Reinforcing the researchers in fundamental, practical aspects and introducing the knowledge as well as rewarding the distinguished researchers, superior scientists and appreciation of pioneers are the main part of the event.

Plus these two events, there will be a national campaign with the same name as a national week of family, reproduction and parenting from 15th of May to 20th of May 2016.

The goal of this campaign that ISERB is one of its organizer is to promote awareness in the most important issues of reproduction as an example, fertility health and infertility and also supporting the couples with infertility problems.

The coincidence of this event with the second ISERB congress encourages the cooperation and support of infertility centers in the whole country and there will be free counseling and opportunities of basic realization to the couples with infertility issues.

We deeply hope that these social and scientific happenings lead to better understanding of science behind the biology of reproduction and embryology, sharing ideas, practical scientific experiences and expansion of public awareness about this issue.

It is obvious that the substantiation of plans of these campaigns and congress is impossible without the hand and innovation of experts, specialties, researchers, students and those who are very keen and interested in this matter as well as science related journalists and social media.

We sincerely wish all the best for all the stakeholders, participants of "The 2nd International Congress of Reproduction" and superiors of "ISERB 2nd Festival of Excellence Award in Reproduction" in this matter, and the first national campaign of families, reproduction, and parenting towards health and prosperity.

Dr. Mohammad Mehdi Akhondi,
Charmin of ISERB

Introduction:

During the recent decades, new emerging issues in reproductive biology and embryology were culminated in transformation and fundamental changes in this field. Among them, stem cells, transgenic animals, cloning and genetic diagnosis before implantation are the typical ones that laid the ground for research and subsequent applications in diagnosis and related treatments. The pivotal changes are all indebted to such cutting edge development.

In addition, with collaboration of all colleagues educated in medicine, experts and researchers in the field of reproduction, ISERB furthered its goals and objectives during the four year of its establishment towards invaluable achievements that steering the organization to its ultimate, exalted longing.

The upcoming congress is going to be held on 21-23 May, 2016. The congress is the result of the planning and attempts of a group of colleagues and ISERB board of directors in which the scientific topics are submitted in 17 topics in conjunction with the workshops. Furthermore, the 2nd International Congress on Reproduction is going to be established with the honorable presence of Iranian and non-Iranian scholars.

The conference lays the foundation for exchange of data, information, and scientific ideas in reproduction. Experts and researchers utilize the latest findings of modern research in the world and within the country and transfer their experiences and findings, the result of which would be the promotion of the quality of research and performance of the researchers.

Therefore, the assistance of all researchers, scholars and practitioners in medical community both at home and abroad will enrich the content of the congress and improve the quality of the programs.

Results:

- Introducing the latest scientific achievements in relation to reproduction to the related students and researchers
- Motivating the researchers in different branches of biology for research in applicability of biotechnology in reproduction
- Training professionals in diagnosis and treatment of diseases related to reproduction with the aim of improving their knowledge
- Familiarizing the researchers with ethical and legal considerations associated with reproduction
- Creating research teams for doing interdisciplinary research

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Dr. Mansoureh Movahedin
Congress Scientific Secretariat

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Scientific Secretariat of ISERB 2nd Festival of Excellence Award in Reproduction

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Charmin of ISERB

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ISERB Award 2016

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2nd ISERB Award of Excellence in Reproduction

Pioneers and Professors

Professor Gholamreza Pourmand

Gholamreza Pourmand was born in Ahvaz, Iran in 1946. Following graduation and receiving diploma from high school, he entered the Medical School of the University of Ahvaz in 1956. After graduation as an MD in 1972 he started his profession in urology in 1974 and ended in 1978 in the University of Tehran, School of Medicine. He later moved to the United States to pursue his professional career in UCLA in California in 1984. In 1984, he earned his fellowship in male infertility, oncology and urology. During his scientific career he entered professional workshops and trainings such as the Neurogenic Bladder in Germany, a 6-month training in pediatric oncology-urology in UCLA and Buffalo, USA, male infertility in UCLA, kidney transplant at Middlesex, London, urology-laparoscopy at medical school and dentistry of King's college London, training reproductively in Brussels, Belgium and Nanomedicine in Moscow.

He acted as an assistant professor of urology in the University of Tehran from 1993 and became full professor in 1993. He is also member of the European Urology Society since 1990, American Society for urology since 1988, International Society for urology since 1988, board of the Middle-East Organ Transplantation for two rounds, representing Iran at the International Society for Urology for twenty years, Nanotechnology Committee of the Ministry of Health since 2004, American Society for Fertility 1990-1994, member of the editorial board of the Journal of Reproductive Medicine since 2004, member of the editorial board of the Journal of Research, School of Medicine, the University of Tehran since 2000 and awarded as top university scholar in 2005. He has also acted as the director of Sina Hospital since 2006, director of urology research center of the medical school, University of Tehran from 1993 to 1997, secretary of the Meddle-East Organ Transplantation Society since 2002 and secretary of Iranian Society for urology from 1982 to 1985.

He has also received numerous awards during his professional career such as: ranked 1st in the 7th Medical Science Research Conference of Razi in 2001, top urologist of the year awarded by the Iranian Medical Council, top researcher of the 2nd Royan International conference, Installation of the first ESWL device at Sina Hospital, top researcher of the year 2001 awarded by the Iranian Society for Urology, Notable Iranian in Medicine in 2006 and top researcher awarded by Yalda International Association in 2012.

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Pioneers and Professors

Professor Hojjatollah Saeedi Saeedabadi

Hojjatollah Saeedi Saeedabadi was born in Isfahan in 1949. He received his degree in science laboratory of University of Isfahan. He then moved to the UK for further studies and after getting his master's degree in clinical biochemistry followed by the Islamic revolution of Iran he founded the PhD research programs in University of Tehran after returning to the country. He studied his (ART) specialties in the UK, Germany and the United states. He then joined IVF department of Aban hospital in 1990 as well as establishing embryo research studies laboratory in Shariati hospital and did the first IVF surgery in this department in September 1992 which was also published in Keyhan newspaper. Establishing embryo research studies in Navid clinic was part of his activities which took place in 1991 and he did the ICSI surgery and also the first surgery of Rapid Zift in the world. At this time, specialty methods of (ART) as well as frozen embryo, fetus and sperm in order to cure the patients with infertility issues were delivered by Dr. Saeedi in 3 different centers of Omid, Aban and Sara.

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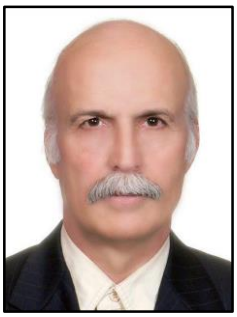
Pioneers and Professors



Professor Mohammad Hashem Fazeli

Mohammad Hashem Fazeli was born in 1952 in Abadan, to Azeri Turk Parents. He studied his elementary, secondary and high school in Shooshtar and Brojerd, later on continued in veterinary faculty in Shiraz between 1970-1976. He then received his master in veterinary medical science o state university of Colorado, USA, and afterwards served his Ph.D. as well as Post Doc in Auburn University of Alabama state, USA.

He returned to Iran in 1984, and started scientific activities and research in veterinary faculty of Shiraz University and continued to work in Azad University of Shahreh-Kord. Plus his formal scientific activities and lectures in accredited universities, he as well taught for the last 33 years in various numbers of classes, institution and labs as an expert in different cities.

As his serious dedication in serving academic, research, medical and counseling, this led to co-operation with centers of producing frozen cow sperm, veterinary organizations, managing in veterinary of nations agriculture, general company of vet gene reproducing in the country, organization of scientific and industrial research, federations of horse riding, and numerous institutions related to this field which makes his resume exceptional. His efforts were centered in trying to connect universities to governmental representatives, organizations and farms.

Professor started first investigations on embryo transfer in sheep and despite the needs of the system in these matters, basic steps of experiment resulted in reproducing the same bovine embryo transfer in a mutual work between Shiraz University and agricultural organization of that era.

Guidance, practical and scientific responsibility was Professors' duty. This project started in 1986, and led to born of the first calf as a result of transferring of embryo in Iran in April, 1987, in sections of cow stable of Shamsabad owned by agriculture organization out and about Takhte Jamshid. Furthermore, necessary involvements were done in order to expand it in farming level and were under control in different cities with different ideas and goals.

Teaching this method and delivering the science behind it was in the attention from the very beginning of happenings of the projects. Selection of activities related to this matter, resulted in achieving 3rd prize in research of the third Kharazmi festival.

During his dedicated work, he published specialty articles and verbal teachings, inside and outside of Iran.

Embryo transfer and sperm cryopreservation in horse was always his favorite topic and this issue is currently active at the moment.

Prof. Fazeli is retired from Azad university of Shahreh-kord since September, 2015, but still continues his involvements in co-operations with the industry and academic projects.

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Prominent Researcher

Dr. Mohammad Hossein Nasr-Esfahani

Mohammad Hossein Nasr-Esfahani received his PhD from the University of Cambridge, UK, in 1991 and is currently an academic member of the Royan Institute in Tehran, Iran. He has been working as laboratory director of the Isfahan Fertility and Infertility Centre since 1992 and has especial interests on male infertility. He is also the head of Royan Institute for biotechnology in Isfahan, Iran. The main research areas of the groups with which he works are stem cells with interest on neuro-regeneration, animal cloning, recombinant protein and male infertility. He has over 400 publications in international and national journals and, has co-author several chapter books at international level. He has also published 6 books in Persian. The project of the first Iranian cloned sheep and transgenic animal was carried out under his supervision.

The main projects which he has been involved in are:

- Sperm functional tests for assessment of male infertility Implementation of novel sperm selection methods like Zeta
- Etiology and medical treatment of varicocele
- Oocyte activation
- Animal cloning and Transgenesis, especially in goat
- Production of elite animals trough cloning
- Production of organ through blastocyst complementation
- Neurogenesis and stem cell technology
- Tissue regeneration via dental stem cells
- Tissue engineering
- Production of recombinant protein, such as TPA or tenecteplase
- Role of nano-technology in protein recovery via surface modifications
- Role FNDC5 and PPR gamma in differentiation

2nd ISERB Award of Excellence in Reproduction

Top Article

(National Section)

Dr. Mohammad Amin Rezvanfar

By the end of the fourth year of my studies at university followed by my success in pre-interne examination as second ranked winner, I had this unique opportunity to join the Department of Pharmacology and Toxicology at the Tehran University of Medical Science (TUMS) where I worked as a research colleague under the supervision of Professor Mohammad Abdollahi, the eminent professor of Iran in the field of Pharmacology and Toxicology.

In fact two major events occurred in my life after concluding my D.V.M in 2008. Firstly, not only I was not disconnected from the academic arena but also I involved myself in academic issues more actively under credit of Prof. Abdollahi. I attended various national and international conferences, conducted several researches projects, and finally got accepted in the PhD program of Pharmacology and Toxicology in Pharmaceutical Sciences Research Center (PSRC); Tehran University of Medical Sciences (TUMS).

As the second major milestone, upon wrapping up my DVM studies I got promoted at work and took position at OSVEH Pharmaceutical Co. which is one of the best pharmaceuticals manufacturers and the market leader of some specialty drugs and supplements in the Iran, when I was 26 years old. After that, I was appointed as responsible for establishment of the project of Technology Transfer in the company. As a project manager of a biotechnology start up, especially in Iran, the big challenge for me was to foster a transition within the founding team from science-oriented to commerce-oriented thinking and action.

Following my research activities at TUMS, while keeping my position at OSVEH R&D, I was appointed as expert member of the executive committee in a pharmaceutical branch of Health Technology Affairs, Ministry of Health and Education (MOH); (October 2013 – Present) and also the secretary of the National Pharmaceutical Research Network, Deputy of Research, Ministry of Health and Education (MOH); (February 2011–Present).

So far, I have contributed in authoring more than 20 papers in prestigious international journals and authoring 2 book chapters of the extensive reference textbook Encyclopedia of Toxicology 3rd edition (Elsevier, USA). I have been recently listed among top students of TUMS postgraduate program. According to GS, my current H-index, total citations, and i10 index are 8, 292, and 7, respectively. My main themes of research work are the mechanisms and relevance of free radicals toxic stress in male and female fertility and how toxic substances, whether drugs or environmental chemicals, affect developmental process. Besides, having graduated with Pharma-MBA degree, now after several years of simultaneously studying and working, I am once more sensing the need to learn and grow further, I know myself as a knowledge oriented individual who values learning and promotion far above just doing business or earning money. My experiences during the years of research and working have definitely served to grant me a clear outlook in my research and the practicality of my studies.

2nd ISERB Award of Excellence in Reproduction

Top Article

(International Section)

Dr. Mahmoud Aarabi

Mahmoud Aarabi is a Reproductive Epigenomics Postdoctoral Associate at the Department of Human Genetics, McGill University, Montreal, Canada. Dr. Aarabi graduated from the School of Medicine, Shaheed Beheshti University in 2004 and worked as a research fellow at the Department of Reproductive Genetics, Avicenna Research Institute for 3 years. He then moved to Canada to pursue his PhD in reproductive genetics at Queen's University. Dr. Aarabi's PhD research focused on characterization of sperm proteins responsible for fertilization and their role in diagnosis and treatment of infertility. In his postdoctoral research, Dr. Aarabi investigates the impact of parental diet and genetic background on germ cells and offspring DNA methylome. Through collaborative study projects with several infertility clinics, he utilizes state-of-the-art next generation sequencing-based techniques to study the sperm epigenome. Dr. Aarabi has published 9 articles as the first author as well as 9 articles as the co-author in peer-reviewed journals. He has presented in numerous national and international conferences and received several awards and prizes for his research including: the Trainee Merit Award in the Annual Meeting of the American Society of Andrology and the Best Clinical Paper Award in the Annual Meeting of the Canadian Fertility & Andrology Society (2015), the Lipshultz/Lamb Traveling Scholar Award from the American Society of Reproductive Medicine (2014) and the Professors' Prize for Outstanding Graduate Work at the Department of Biomedical & Molecular Sciences, Queen's University (2013).

2nd ISERB Award of Excellence in Reproduction

Prominent Student Thesis

Dr. Fatemeh Bazarganipour

Fatemeh Bazarganipour was born in 1985. Graduated from Tarbait Modares University in Reproductive Health PhD with the thesis entitled "Psychometric properties of the modified Polycystic Ovary Syndrome quality of life questionnaire (MPCOSQ) and providing model to determine predictor variables related to Health related quality of life of PCOS patients ". the entitled thesis resulted in eight published international articles in HUMAN REPRODUCTION, FERTILITY AND STERITLIYT, JOURNAL OF SEX MEDICINE and etc. she is currently working as an assistant professor of midwifery and reproductive health in Hormozgan University of Medical sciences. Dr Bazarganipour has published over 30 nationally and internationally articles on reproductive health subjects including dysmenorrheal and acupressure, polycystic ovary syndrome and sexual function that was carried out on adult and adolescent. She has served as a reviewer of several international journals like the Health and Quality of Life Outcomes, International Journal of Gynecology and Obstetrics, and Reproductive Health. She is an editorial member of Journal of Child and Adolescent Behavior.

Invited Speakers

(In Order to English Alphabet)

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I-1: Selecting the best sperm for IVF/ICSI: Can the sperm-borne oocyte activating factor(s) help?

Mahmoud Aarabi M.D., Ph.D. [1, 2*]

1- Department of Human Genetics, McGill University, Montreal, QC, Canada
2- Child Health and Human Development Program, Research Institute of the McGill University Health Centre, QC, Canada
[*] *E-mail:* m.aarabi@gmail.com

Abstract

Infertility has been recently described by the World Health Organization (WHO) as a critical but neglected aspect of reproductive health. Intracytoplasmic sperm injection (ICSI) has opened new windows towards the treatment of human infertility by assisted reproductive technologies (ART). Currently, ICSI is performed in approximately 67% of ART cycles in the United States; however, only about 60% and 36% of such cycles result in fertilization and clinical pregnancy, respectively. Low or total fertilization failures contribute to a significant percentage of those unsuccessful cycles. Successful fertilization depends upon the activation of metaphase II arrested oocytes triggered by the fertilizing sperm. Oocyte activation in mammals involves a sequence of events initiated by a rapid intracellular calcium release followed by series of repetitive calcium oscillations, exocytosis of cortical granules, completion of meiosis II, decondensation of the sperm nucleus, pronuclei formation and embryo cleavage. Although some steps of oocyte activation are well defined, it is still unclear which sperm-borne oocyte activating factor(s) (SOAF) are required for initiating this process. Several possible SOAF candidates have been under investigations, many of which were discarded for not exhibiting some of the SOAF characteristics in the last two decades. Here, we review the detailed developmental, functional and clinical attributes of SOAF and describe how two sperm candidate proteins, phospholipase C zeta (PLCζ) and postacrosomal WW-binding protein (PAWP) fit such criteria. We then discuss the clinical applications of SOAF in treatment of infertility by selecting the best sperm for IVF/ICSI.

Keywords: Assisted reproductive technologies, Infertility, Intracytoplasmic sperm injection, Phospholipase C zeta, Postacrosomal WW-binding protein, Sperm.

I-2: *In vitro* culture of cryopreserved ovarian tissue as alternative option for fertility preservation

Shabnam Abdi[*]

- PhD of Anatomical Science, Tehran, Iran
[*] *E-mail:* shabnam.abdi62@yahoo.com

Abstract

One of the useful and effective technologies for restoration of endocrine function of the ovaries and fertility in young patients and girls with various types of cancer or some autoimmune diseases may be the autotransplantation of cryopreserved ovarian tissue. At present, according to the world literature, after orthotopic autotransplantation of ovarian tissue at least 42 healthy babies were born. Autotransplantation of cryopreserved ovarian tissue has many advantages, *e.g.* this method does not need the postponement of anticancer therapy, is safe for hormone-dependent cancer and it is the only option for fertility restoration in prepubertal girls.

But human ovary autotransplantation has disadvantages and may not be feasible for patients at risk of ovarian involvement such as leukemia, neuroblastoma or Burkitt lymphoma due to the threat of reintroducing malignant cells. Thus, new options need to be developed for use of the stored ovarian tissue to minimize risk of reintroducing malignant cells.

Some alternatives that can be considered to avoid the transmission of cancer cells via ovarian tissue autotransplantation are *in vitro* culture ovarian follicle, grafting of isolated ovarian follicles, artificial ovary and finally finding new strategies to detect cancer cells in ovarian tissue. *In vitro* ovarian follicular culture not only provides an important model to understand the mechanism of folliculogenesis but also, in combination with cryopreservation of ovarian tissue, it may have new clinical applications for improvement of fertility. Although encouraging results have recently been obtained, many gaps regarding the regulation

of follicle development under *in vitro* conditions are far from being solved.
The major challenges facing this option are how to find best ovarian cells source, suitable biomaterial of scaffold for the artificial ovary by 3D printing and how to prolong the lifespan of artificial ovary as well as how to improve artificial ovary results that would allow survival and proliferation of isolated human ovarian cells. So, the most important need is for *in vitro* follicle culture methods as an alternative to homologous transplantation.

Keywords: Cryopreservation, *In vitro* culture, Ovary.

I-3: Vitamin D deficiency in Iran and infertility

Zahra Abdollahi*

- PhD Nutritional Sciences, Director General of Nutrition Department, Ministry of Health and Medical Education, Iran
* *E-mail:* Abdollahi_z@yahoo.com

Abstract
Diet is recognized as one of the major environmental factors influencing the development of embryo and fetus, as well as maternal health. Micronutrient deficiencies have been associated with significantly high reproductive risks, ranging from infertility to fetal structural defects and long-term diseases. Vitamin D is an emerging factor influencing female fertility and IVF outcome. Vitamin D has been well-known for its function in maintaining calcium and phosphorus homeostasis and promoting bone mineralization. There is some evidence that in addition to sex steroid hormones, the classic regulators of human reproduction, vitamin D also modulates reproductive processes in women and men.
Studies has shown that clinical pregnancy rates were significantly lower in women with vitamin D deficiency compared with those with higher vitamin D values. Review of the publications concerning the role of calciferol in reproduction processes and its significance in infertility therapy covering topics of polycystic ovary syndrome, endometriosis infertility, myoma infertility, male infertility, premature ovary failure and *in vitro* fertilization techniques. The vitamin D receptor (VDR) and vitamin D metabolizing enzymes are found in reproductive tissues of women and men. Vdr knockout mice have significant gonadal insufficiency, decreased sperm count and motility, and histological abnormalities of testis, ovary and uterus. Moreover, we present evidence that vitamin D is involved in female reproduction including IVF outcome (clinical pregnancy rates) and polycystic ovary syndrome (PCOS). In PCOS women, low 25-hydroxyvitamin D (25(OH)D) levels are associated with obesity, metabolic, and endocrine disturbances and vitamin D supplementation might improve menstrual frequency and metabolic disturbances in those women. Moreover, vitamin D might influence steroidogenesis of sex hormones (estradiol and progesterone) in healthy women and high 25(OH)D levels might be associated with endometriosis. In men, vitamin D is positively associated with semen quality and androgen status. Moreover, vitamin D treatment might increase testosterone levels. Testiculopathic men show low CYP21R expression, low 25(OH) D levels, and osteoporosis despite normal testosterone levels. Since the systematic reviews has shown association between vitamin D status and fertility has been shown.
In Iran, the results of the National Integrated Micronutrient Survey (NIMS11) conducted by Nutrition Department of MOH and School of Nutritional Sciences and Dietetics of Tehran Medical University in 2012 has shown high prevalence of insufficient 25(OH)D levels (<30 *ng/ml*) among different age groups including young male (57.3%) and female (93.7%) in Iran. Given the high prevalence of vitamin D insufficiency in otherwise healthy young women and men and the possible role of vitamin D in human reproduction, research might lead to new therapeutic approaches such as vitamin D supplementation in the treatment of female and male reproductive disorders.

I-4: The legal duty of infertility treatment centres to keep the treatment information confidential

Mohammad Rasekh [1*], Mohammad-Mehdi Akhondi [2]

1- Professor of Public Law and Jurisprudence, Shahid-Beheshti University & Head of Bio Law and Ethics Department, Avicenna Research Centre, Tehran, Iran

2- Professor, The Head of Reproductive Biotechnology Research Center, Avicenna Research Center, Tehran, Iran
** E-mail:* m-rasekh@sbu.ac.ir

Abstract
The legislature of the Islamic Republic of Iran, based on the theoretical foundations of confidentiality, has supported, directly or otherwise, confidentiality of information in the process of provision of the infertility treatment. The most important of the said foundations may be referred to as protection of privacy of infertile couples. According to Article 3 of the Executive Bylaw for the Law on the Method of Embryo Donation to Infertile couples (2004), "embryo donation … in authorised specialised centres for infertility treatment … has to be conducted in full confidentiality". Further, Item (e) of Article 6 and Article 10 of the same Bylaw, on the one hand, obligate the aforesaid centres to observe the confidentiality, and identify judicial authorities as the only competent institute to receive the relevant documents, on the other. The legislature has also defined a sanction for any infringe of the legal duty of keeping the infertility treatment information confidential. Apart from administrative and disciplinary sanctions, Section 151 of the Fifth Chapter of Islamic Penal Code (Ta`zirat and deterrent punishments) (1996) states that disclosure of confidential information, except the cases required by the law, shall be considered a criminal offence sanctioned with "three month and one day to one year imprisonment and/or one million and five thousand to six million Rials pecuniary punishment". Moreover, based on Article 10 of the Executive Bylaw, disclosure of such information may be further sanctioned by the punishment specified in the Law on the Punishment of Distribution and Disclosure of Confidential and Secret Government Documents (1974).
Accordingly, the infertility treatment centres may not disclose the treatment documents to any person other than the competent judicial authorities, otherwise they could be convicted of the crime of disclosing confidential and secret information.

Keywords: Confidentiality, Infertility Treatment Centres, Judicial authorities, Privacy.

I-5: Vitrification of Human Oocytes, Zygotes and Embryos: Technique and results

Safaa Al-Hasani, DMV; Ph.D.*

- Department of Gynecology and Obstetrics, University of Schleswig-Holstein, Campus Lübeck, Germany
** E-mail:* sf_alhasani@hotmail.com

Abstract
Background: Slow-cooling (SC) cryopreservation of supernumary pronuclear stage oocytes during IVF/ICSI is well established and routinely implemented in the clinical IVF-programme. Recently, worldwide high survival and pregnancy rates with Cryo-Embryotransfer by vitrification using minimum volume cooling method have been reported. The radical strategy of vitrification is to result in a total elimination of ice crystal formation, both within the cells being vitrified (intracellular) and the surrounding solution (extracellular). In the present study, we examined the survival rate of vitrified and rewarmed human pronuclear stage oocytes that were cultured for additional 24 *hr* before Cryo-ET as well as to evaluate the pregnacy rate. The results were compared to survival-and pregnancy rate using the slow-cooling cryopreservation method retrospectively.
Methods: Between January 2000 and November 2005 a total of 752 patients had 3616 supernumary zygotes during IVF/ICSI treatment. These zygotes were cryopreserved using the slow-cooling method. A total of 1005 supernumary zygotes from 211 other patients were vitrified between April 2004 and January 2008 using the Cryotop (Kuwayama, RBM-online, 2005, pp 608-615). For vitrification, zygotes were placed into equilibration solution (7.5% Ethylenglycol; 7,5% DMSO) and incubated for 8 *min* at room temperature (RT). Hereafter zygotes were incubated in vitrification solution (15% Ethylenglycol; 15% DMSO; 0,5 *M* Saccharose) for 45-60 *s* at RT and placed on the Cryotop-strip and were plunged directly into the liquid nitrogen. After Vitrifiction a hard plastic cover is attached to protect the strip during storage in liquid nitrogen. In total 1438 zygotes were thawed according to the conventional Slow-cooling-protocol. 107 zygotes were rewarmed after being vitrified: the hard plastic cover was removed in liquid nitrogen and the Cryotop

was plunged in thawing solution (1 *M* Saccharose) at 37 *C* for 1 *min*. Zygotes were placed in diluent solution (0,5 *M* and 0.25 *M* Saccharose) at RT each for 3 *min*. Washing was done many times before culture. After both procedures, vitality of zygotes was evaluated under dissecting microscope one hour after rewarming. Embryo transfer was done 24 *hr* after culture in programed cycles. Clinical pregancies per Cryo-ET were evaluated and compared for both methods.

Results: In total 1438 zygotes were thawed after being cryopreserved with the slow-cooling method. 848 zygotes seemed to be vital after thawing with a survival rate of 59%, while 381 zygotes were rewarmed after being vitrified corresponding to a survival rate of 96.3%. 583 patients underwent Cryo-ET after Slow-cooling procedure of zygotes. The clinical pregnacy rate per Cryo-ET was 10.2% (n=111). In contrast 115 patients underwent Cryo-ET after vitrification of zygotes. Pregnacy rate was 33.3% (n=69). Out of these 39 healthy babies were born.

Conclusion: These retrospective comparative results clearly demonestrate, that the Cryotop vitrification method of supernumary zygotes showed a high post-thaw survival and pregnancy rates suggesting that the Vitrification-protocol may be preferable because of its simplicity, cost-effectiveness and time saving in a busy laboratory daily-work.

I-6: Recurrent implantation failure: causes and managements

Soheila Ansaripour*

- ObGyn Fellowship of infertility, Avicenna Research Institute, Tehran, Iran
* *E-mail:* soh.ansaripour@gmail.com

Abstract

Repeated implantation failure is still a major challenge. The average success rate is routinely 30-40%. The occurrence of spontaneous pregnancy is only %25-%40 during each natural cycle.

Some researchers basically don't believe on the term "IVF failure" at all. It should be emphasized that, stages such as ovulation, fertilization, embryo formation and development, which all occur during a natural cycle, are bypassed due to assisted reproductive techniques in an IVF cycle.

There is no definition for it, but the only common condition "good quality embryo transfer" is intended. Recently, female age is also considered as a criterion in the definition of IVF failure. Therefore, the terms "implantation failure" and "fertilization failure" which are now considered as two subsets of IVF failure, should be distinguished from each other as clearly as possible.

Sometimes, a factor (*e.g.* male factor, endometriosis, low oocyte quality, …) may result in repeated implantation failure. However, you may find no causative factor in many cases of RIF couples.

Mainly, a) the embryo, b) the endometrium and c) their active interaction are considered as the three important components in the success of ART outcome. Currently, good quality embryos are merely chosen on the basis of morphology in most embryology labs. Meanwhile, new and more accurate techniques such as pgs/ngs are on the way in order to help us distinguish good embryos more precisely.

Now 2-D or 3-D vaginal sonogram examination or hysteroscopy is widely used to evaluate endometrial pathologies such as polyps or fibroids.

Endometrial receptor array (ERA) may be a new useful technique to assess endometrial receptivity, but further research is still necessary.

In an embryo transfer cycle, it is not possible to make manipulations on the endometrium or pick up an endometrial sample during the window of implantation. So the endometrium is still a "black box" or "a mysterious box" due to no synchronized accessibility to the endometrium just before or after ET.

Our knowledge about embryo is more widely, because the embryo biopsy via taking one or even more blastomers is technically possible.

Therefore, further research in collaboration with a multidisciplinary team including geneticists, embryologists, immunologists, andrologists and infertility specialists, is necessary to perceive the complex pathogenesis of recurrent IVF failure, more accurately.

Keywords: Embryonic factors, Endometrial factors, Management, Recurrent implantation factor, Recurrent IVF failure.

I-7: Study of *in vitro* oocyte maturation and fertilization based on presence or absence of granulosa cells in the ART methods in Mehr Institute

Mostafa Ashrafi Osalou Mehr [1*], Maryam Taheri [2], Leila Rouhi [2], Firouz Gaderi Pakdel [3], Marziyyeh Mehrafza Mehr [4], Ahmad Hosseini Mehr [4]

1- Medical Institute, Ershad St., Shahid Ansari Blvd., Rasht, Iran, Department of Anatomy, Faculty of Medicine, Islamic Azad University, Ardabil Branch, Ardabi, Iran
2- Department of Biology-Islamic Azad University-Shahrekord Branch
3- Department of Physiology, Faculty of Medicine, University of Medical Sciences-Urmia-Iran
4- Medical institute, Ershad St., Shahid Ansari Blvd., Rasht, Iran
[*] *E-mail:* maomostafa@gmail.com

Abstract

Background: Choosing suitable egg and sperm in IVF before fertilization is one of the most important steps. The presence of cumulus cells surrounding the oocyte cytoplasm and injection time are important factors that were discussed in this project.

Methods: Patients with a mean age of 32.7 participated in this project, and after puncture was obtained, eggs were divided into two groups. 94 couples as the "control group" with the conventional method, and 95 couples as the "test group" with the proposed method were prepared and punctured. Obtained embryos were classified, and embryos transfer into the uterus of the patient was done on the third or fifth day.

Results: 1070 oocytes were in control group containing 721 M2 oocytes (67%), 206 M1 oocytes (19%) and 143 GV oocytes (13%). 927 oocytes (91%) out of 1070 were injected rapidly, and 530 of them (57/1%) became embryos. 1107 oocytes in test group consisted of 789 M2 oocytes (71%), 170 M1 oocytes (15%) and 145 GV oocytes (13%) were assayed into groups with 1, 2 or 3 *hr* postponing in order to be prepared for injection. Finally, 618 (63/7%) out of 970 oocytes (87%) became embryos which is about 6/5% better than conventional method.

Conclusion: If oocytes after parrying red blood cells and plasma are incubated for 15 to 30 *min*, obtaining good quality embryos would be resulted. The chance of M1 oocytes becoming M2 oocytes at the first hour is high, and generally, obtained embryos of test group (63/7%) in comparison with control group embryos (57/1%) had better quality. Also, the quantity of embryos increased about 6/5 percent.

Keywords: ICSI, Infertility, IVF, IVM, Maturation, Oocyte, Puncture.

I-8: The surveillance in the birth and its registration process according to Shia views and Iran substantive laws

Mohammad Reza Ayati [1*], Nafiseh Paydar Pouya [2]

1- Dean of the Faculty of Theology and Philosophy, Islamic Azad University, Research and Science Branch, Tehran, Iran
2- Ph.D. student of Jurisprudence and Principles of Islamic law, Faculty of Theology and Philosophy, Islamic Azad University, Research and Science Branch, Tehran, Iran
[*] *E-mail:* smrayati@yahoo.com

Abstract

In today's modern society, the individual entity is established at the beginning of the birth through officially issuing birth certification. This identity-based document leads to many legal effects such as parentage, inheritance, and confidentiality. In accordance with the regulations, the baby's birth certificate will be issued with the birth of the child by announcing the birth event, providing the birth certificates of the parents and the birth certificate issued by the doctor or midwife.

Recently, the registration offices ask for the hospital records and some questions such as the identity of the sperm and ovule donors and the like for issuance of the birth certificate for newborns whose parents have significant time interval between the marriage and pregnancy. These actions, in terms of jurisprudent principles and substantive laws, are examples of illegitimate and criminal behaviors.

According to Islamic jurisprudence, respecting privacy is one of the provisions which enjoy the support of reason and tradition as well as some rules such as "no harm" and "no hardship". Legally, the civil registration office's surveillance in the birth event is against privacy observing stipulated in the constitution. It also opposes the law of registration, the decision of the General Board of Administrative Justice Court and Executive Regulation of the Law on Embryo Donation. Therefore, the Islamic Penal Code implies the criminal responsibility of the registration office performance.

The disciplinary regulation of investigation of violations of trade and profession of medical practitioners governs the civil liability of secrets whistleblowers. The law of Respecting Legitimate Freedoms and Protecting Citizens' Rights prohibits it.

Keywords: Confidentiality, Infertility, Registration of birth, Surveillance.

I-9: The Effect of the acceptance and commitment therapy (ACT) and paroxetine on infertility anxiety: a randomized controlled trial

Hadi Badr (M.D) [1], **Hossein Payandan (M.A) [2*]**

1- Assistant Professor of North Tehran Islamic Azad University, Tehran, Iran
2- Psychometrist, Tehran, Iran
[*] *E-mail:* payandan57@gmail.com

Abstract
Infertility has been described as creating a form of stress leading to a variety of psychological problems. Both psychotherapy and pharmacotherapy are effective treatments for infertility stress. The aim of this study was to evaluate the effectiveness of acceptance and commitment therapy along with paroxetine for improvement infertility anxiety in infertile women. In a randomized controlled clinical trial, 60 infertile women with anxiety were recruited into the following three groups: i. Acceptance and commitment therapy (ACT), ii. Paroxetine group, and iii. Control group. Twenty participants in the ACT method received psychotherapy for 10 sessions. Twenty participants in the pharmacotherapy group took paroxetine for 90 days. Twenty individuals in control group did not receive any intervention. All participants completed the Beck anxiety Inventory (BAI) at the beginning and end of the study. We applied, ANOVA and Tukey test to analyze the data. Paroxetine and ACT reduced anxiety compared to the control group. But there was no significant difference between paroxetine and ACT groups. ACT decreased anxiety same as paroxetine. Thus, ACT could be a reliable alternative to pharmacotherapy, in resolving and reducing infertility anxiety especially in attention to the paroxetine side effects.

Keywords: Acceptance and commitment therapy, Anxiety, Infertility, Paroxetine.

I-10: Media and the culture of reproduction

Mehri Bahar[*]

- Associate professor in Tehran university, Social Communication Sciences Department
[*] *E-mail:* mbahar.ut@gmail.com

Abstract
We are all aware of the role of media in developing culture in the virtual world and in our everyday lives. We also know that media has an important role in the reproduction of meaning and different concepts and has developed many ideas In the minds and thoughts of people in regards to related issues.The issue of reproduction and rearing of cultural forces, is one of the major subjects of concern and much talked about in virtual networks, seminars and scientific dialogue. Today, the main concern of special social groups is medicine, health and hygiene with multiple names. In order to shift the attention of social groups to specific subjects and therefore increase peoples attention to the named issues. In other words, with the help of media a narrative mobilization occurs in development of culture for the use of specific products. Media can present different meaning of peoples lives. Based on the importance of media, this articles main questions are "What is the role of media in development of the culture of reproduction?", "Which tools and language does media use for culture development and re development of meaning and ideas about family and correct reproduction?". To answer these questions we have to study several virtual groups. We will further use content analysis to answer the above questions.

Key words: Culture of production, Health and hygiene Mass media, Virtual groups.

I-10: The assessment of expression of ectoderm, mesoderm and endoderm markers in embyoid body-like cell aggregates formed from Wharton's jelly mesenchymal stem cells by immunocytochemistry

Soghra Bahmanpour*, Fatemeh Rezaei, Tahereh Talaei-khozani
- Laboratory for Stem Cell Research, Department of Anatomical Sciences, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran
* *E-mail:* bahmans@sums.ac.ir

Abstract
Background: Mesenchymal stem cells (MSC) isolated from human umbilical cord Wharton's jelly (HUCWJ) have been shown to be able to differentiate into various cell types as they are readily available, do not raise any ethical issues and showed higher differentiation potential compared to adult stem cells. Therefore, HUCWJ is a potential source of material that can be used in regeneration medicine. They express surface CD markers such as CD105, CD90, CD44 along with embryonic stem cell markers. The objective of this study was to find if these cells could form cell aggregates similar to that formed by ESCs (embroid body-like) as they express the same markers of three germ layers.
Methods: Umbilical Cords were achieved from newborn infants. The umbilical cords were cut into small pieces and the explants were cultured in the presence of α-MEM containing 10% fetal bovine serum (FBS), 1% L-glutamine, 100 *g/mL* penicillin/ streptomycin. At passage 3rd, a number of cells including 1000, 5000 and 10.000 cells/ 20 *µL* were cultured in hanging drops for 3 days. The cell aggregates were incubated for additional 3 days in non-adhesive dishes. The cell aggregates were fixed by 4% paraformaldehyde and were incubated with antibody. Then image analysis was done by fluorescent microscope.
Results: The data showed that the embryoid-body-like aggregates had little expression for ectoderm and endoderm markers and much expression for mesoderm markers.
Conclusion: These aggregates stay at the mesenchymal cell mass manner and had little differentiation to ectoderm and endoderm.

I-11: Engineering approach in germ cell research

Fereshteh Esfandiari [1, 2*], Hossein Baharvand [1, 2]
1- Department of Stem Cells and Developmental Biology at Cell Science Research Center, Royan Institute for Stem Cell Biology and Technology, ACECR, Tehran, Iran
2- Department of Developmental Biology, University of Science and Culture, ACECR, Tehran, Iran
* *E-mail:* esfandiari65f@gmail.com

Abstract
It is now well-understood that germ cells (GCs) can potentially generate a fresh body. However, current knowledge about diverse series of involved mechanisms in GCs development is still in its infancy. This is mainly arisen from the fact that there are low numbers of GCs, especially during embryonic development. Even minor damage to cells, during their developmental stage, may cause infertility, *i.e.*, a major global medical problem affecting 10-15% of couples. Accordingly, differentiation of pluripotent stem cells (PSCs) to GCs would provide an unlimited source of GCs. To that end, mouse PSCs have been differentiated to functional primordial germ cell like cells (PGCLC) which restore spermatogenesis of infertile mouse and contribute to healthy offspring. However, this differentiation method could not efficiently produce needed PGCLCs for supporting research regarding GCs development. Employment of new technologies (*e.g.*, microfabrication, and high throughput array analysis) as novel platforms can allow "safe" evaluation of the low quantity of GCs. Deep knowledge of GCs can enhance our capability to produce them from stem cells. Another issue with GC research is that researchers have not been successful in development of a system to support PGCLCs for *in vitro* spermatogenesis yet. Recent advances in the field of tissue engineering suggest strategies (*e.g.*, microfluidic systems and micropatterning technology) to enhance GC research. Nevertheless, engineering technologies can be considered as innovative platforms to fabricate an artificial niche for PSC-derived PGCLCs to enter meiosis and produce sperm in the laboratory.

Keywords: Germ cells, Niche, Pluripotent stem cells, Primordial germ cells, Spermatogenesis.

I-12: Short, semi-short or long GnRH agonist treatment regimens in women candidates of ICSI; which is proper in prevent-

ing premature LH surge?

Popea Rezaeian, **Sedighe Esmaeilzadeh***, Zahra Tajali, Fateme Nadi Heidari, Masoumeh Golsorkhtabaramiri

- *Infertility and Reproductive Health Research Center, Health Research Institute, Babol University of Medical Sciences, Babol, Iran*

* *E-mail:* sesmael@yahoo.com

Abstract

Background: The purpose of this study was investigation of two discontinuous GnRH agonist (GnRH-a) protocols (Short and semi-short) versus traditional long protocol in preventing premature LH surge in women undergoing Intra-cytoplasmic sperm injection (ICSI). This study was a single blind randomized trial study done at Fatemezahra Infertility and Reproductive Health Research Center, Babol, Iran.

Methods: 139 patients who underwent ICSI, were randomly divided in three groups. In short protocol group (n=40), GnRH-a (busereline acetate) was initiated midluteally and ceased at the onset of the next cycle. In group of semi-short protocol (n=41), GnRH-a was initiated and discontinued at the fourth day of the next cycle. In group of long protocol (n=38), it was initiated midluteally and continued until the day of HCG injection. Ovarian stimulation was performed with gonadotropin. In primary outcome occurrence of premature LH surge was evaluated and as secondary outcome the duration and total dose of consumed gonadotropin, number of oocytes retrieval, number of formed blastocyst and pregnancy rate were investigated.

Results: No undesired LH surge occurred in the three groups, although the mean of LH at administration day of HCG was significantly higher in short protocol group ($p \leq 0.05$). No significant difference was observed in the number of mature oocyte, and number and quality of blastocyst, duration and total dose of consumed gonadotropin and pregnancy rate among three groups.

Conclusion: In the ICSI protocol, discontinuing GnRH-a on the first or fourth day of ovarian stimulation did not enhance a premature LH surge.

Clinical Trial Registration no: IRCT201310311760N26.

Keywords: Blastocyst, Buserelin, Gonadotropin, Oocytes, Ovarian follicle.

I-13: Iranians' social attitudes toward reproduction (With emphasis on reproduction norms and their changes in the past four decades)

Seyed Mehdi Etemadifard*

- *Department of Sociology, Faculty of Social Sciences, University of Tehran, Tehran, Iran*

* *E-mail:* etemady@ut.ac.ir

Abstract

Reproduction is one of the basic human needs that allows self-protection and survival. Throughout history, this need satisfaction has been accompanied by various sets of attitudes and cultural mentalities. The present paper studied Iranian's attitudes towards reproduction. The main purpose of this study was to recognize major changes that have occurred around the issue in recent decades. The main question of the study was what priorities constitute Iranians' attitudes toward the issue of reproduction and childbearing and what changes have befall on these priorities during the past decades?

The method for finding the answer was trend analysis and comparative study of the data gathered through national censuses performed in the past four decades (from mid 1970s to the present decade) on value and attitude evaluation in Iran. In data analysis, Iranians' attitudes toward reproduction have been studied based on three generation, education, and occupation categories and the changes in each. The findings of the study indicate that deep changes have occurred in Iranians' attitudes toward gender and the number of children.

Although gender preference toward boys persists, it is gradually losing ground. Fertility is vital for families, but the preferred number of children has decreased. In addition, there is a meaningful difference between the attitude of young people and other age groups, and between the educated and working people with less educated and unemployed groups.

Keywords: Cultural change, Education, Generation, Occupation, Reproduction, Social attitude, Trend analysis.

Definition of Key Words by Merriam-Webster:
cultural change: Modification of a society through innovation, invention, discovery, or contact with other societies.
education: The knowledge, skill, and understanding that a person get from attending a school, college, or university.
generation: A group of people born and living during the same time.
occupation: A person's job or profession or an activity that a person spends time doing.
reproduction: The process that produces babies.
social attitude: A feeling or way of thinking that affects a person's behavior.
trend analysis: The technical study based on past data that tries to predict the future movement.

I-14: Do dietary supplements improve ICSI outcomes in polycystic ovarian syndrome in infertile women?

Farnaz Fatemi [1*], Afsaneh Mohammadzadeh [1], Mohamad Reza Sadeghi [2], Mohammad Mehdi Akhondi [2], Koorosh Kamali [1], Sheida Jouhari [1], Simin Zafardoust [1], Sara Mokhtar [1], Ladan Giahi [1]

1- Reproductive Biotechnology Research Center, Avicenna Research Institute, ACECR, Tehran, Iran
2- Monoclonal Antibody Research Center, Avicenna Research Institute, ACECR, Tehran, Iran

[*] *E-mail:* dr.farnazfatemi@gmail.com

Abstract

Background: Polycystic Ovarian Syndrome (PCOS) is the most common ovulatory dysfunction at reproductive age in women that may cause infertility. Treatment options for this type of infertility, consisted of Induction Ovulation combined with Intra Uterine Insemination (IUI), and In Vitro Fertilization (IVF) and Intra Cytoplasmic Sperm Injection (ICSI), for women who did not get pregnant. It is a question whether micronutrients, antioxidants, or any supplements can improve ICSI outcomes in these women. So, we decided to evaluate the effect of vitamins E and D3 along with controlling dietary intake on ICSI outcomes of PCOS infertile women.

Methods: A total of 105 PCOS infertile women who were candidates for ICSI, participated in this double blind randomized clinical trial (RCT) and were divided into treatment group(vitamin E, 400 *mg/daily*–dl alpha tocopheryl acetat and vitamin D3, 50000 *IU*/one in two weeks, n=52) or placebo group (n=53). They received supplements for 8 weeks during ICSI cycle (long protocol). All subjects in both groups received the same dietary protocol. Subjects received a numeral code based on the order of recruitment at the beginning of the trial. Open Epi (v 3.0.1) random number generator was used for randomizing qualified participants into two groups at a 1:1 ratio. Women with systemic diseases, endometriosis, uterine anomaly or hydrosalpinx, retinitis pigmentosa and vitamin K deficiency and also severe male factor infertility were excluded. They were also excluded if they consumed vitamin and antioxidant supplementations in the last three-months. Primary outcomes included pregnancy rate and implantation rate, and secondary outcomes included oocyte quality, embryo quality, fertilization rate, and alteration of serum vitamin D3 after treatment.

Results: There was vitamin D3 deficiency (<20 *ng/ml*), in 87% of patients at the beginning of the study. Pregnancy rate was significantly higher in treatment group compared to placebo group (69% VS 25.8%; p<0.001). In addition, significant higher clinical pregnancy rate was observed in treatment group (62.1% VS 22.6%; p=0.002). Treatment group also showed a significant higher implantation rate (35.05% VS 8.6%; p<0.001). Serum vitamin D3 level significantly increased in the treatment group after the intervention period compared to baseline (p<0.001). Further analysis showed that there is positive association between vitamin D3 level and implantation rate (r=0.321, p=0.015) and also between vitamin D3 level and increased clinical pregnancy (r=0.278, p=0.037).

Conclusion: In conclusion, the findings of this study suggest that vitamin E and D3 may play an important role in the success rate of ICSI. But more research is needed to further elucidate the possible mechanistic pathways in which these micronutrients act. Finally, regardless of fertility issues, the alarming high prevalence of vitamin D3 deficiency and insufficiency should be consid-

ered for proper nutritional counseling regarding maintaining healthy levels of micronutrients for overall and pregnancy health.

Keywords: Dietary supplements, Female infertility, Micronutrients, Pregnancy rate.

I-15: Discussing the Ethics of Reproductive Travel: "Hope" and "Exploitation"

Shirin Garmaroudi*

- *University of Zurich*
* *E-mail:* garmaroudi@gmx.ch

Abstract

Assisted reproductive technologies (ARTs) including IVF with donor gametes and surrogacy are legal and accessible in Iran. My research has examined the regulations and implementation of these technologies in Iran. Many infertile couples – both Iranian and non-Iranian – have travelled to Iran to fulfil their hope of conceiving a child. In this paper, I will elaborate on the experiences and perspectives of these infertile couples and look for the local, national and international circumstances in which such encounters and experiences take place. I would like to discuss the ideas of "hope" and "exploitation" in the context of reproductive travel and raise ethical concerns and questions about its regulation in Iran.

Abstract for the Panel "Fertility Tourism- Opportunity or Exploitation", ISERB 2016

I-16: Continuity and transformations of kinship relations in Iran: cousin marriages, reproductive relations and IVF

Shirin Garmaroudi*

- University of Zurich
* *E-mail:* garmaroudi@gmx.ch

Abstract

As I have argued elsewhere (Garmaroudi Naef 2015 and 2016), the social uses of assisted reproductive technology in Iran do not necessarily displace existing Iranian kinship structures and cultural assumptions about kinship and reproduction. Rather, many of these structures and assumptions are truly being reinforced and refashioned by these technologies. This paper shows how IVF is reshaping the practice of cousin marriages. Cousin marriages of both the cross and parallel kind have a long history in Iran and the evidence suggests that they are on the increase today. A program of pre-marriage genetic tests has become part of the contemporary Iranian medicine and public health system. These tests aim to prevent cousin marriages in the case of certain diseases such as Betathalassemia. On the other hand, IVF and preimplantation genetic diagnosis (PGD) are used for couples with a family history of genetic disease with the aim of supporting cousin marriages. In this paper, I argue that the social uses of assisted reproductive technologies seem to strengthen the already privileged sibling relationship that cousin marriage implies. My reflections on this subject have developed in the framework of my larger ongoing study of assisted reproductive technologies and their regulations and implementation in Iran over the past ten years.

Garmaroudi Naef, Shirin. 2015. "Modern Reproductive Technologies in the Light of Traditional Ontologies: An Anthropological Reflection on Assisted Reproduction in Iran", in Selbstgestaltung des Menschen durch Biotechniken, edited by Robert Ranisch, Sebastian Schuol and Marcus Rockoff, pp. 157-171, Tübingen: Francke.

Garmaroudi Naef, Shirin. 2016. Kinship, Law and Religion: An Anthropological Study of Assisted Reproductive Technologies in Iran. PhD Thesis, University of Zurich.

I-17: MicroRNAs as potential biomarkers for prediction of human embryo implantation success rate

Nassim Ghorbanmehr*

- *Department of Biotechnology, Faculty of Biological Sciences, Alzahra University, Tehran, Iran*
* *E-mail:* nassim.ghorbanmehr@gmail.com

Abstract

A successful implantation that resulting in a full-term pregnancy depends on synchronous development and communication between the viable blastocyst and the receptive endometrium. Recent studies demonstrate that cell free and exosomal miRNAs that are secreted from both preimplanta-

tion embryos and endometrium are key molecules of this communication.
microRNAs (miRNAs) are small noncoding RNAs that have a critical role on post transcriptional gene regulation and therefore are implicated in a wide range of biological processes, including cell proliferation, differentiation and early embryo development. There are several studies that report the presence of different miRNAs in the culture media of bout human early embryos and endometrial cells. They also demonstrate the relation of these miRNAs with embryo developmental rate and receptivity of endometrium.
A very recent study demonstrates that human blastocysts can alter the endometrial epithelial adhesion via miRNA secretion. They show that miR-661 is highly concentrated in the culture media of blastocysts that failed to implant. This miRNA is taken up by primary human endometrial epithelial cell and reduced trophoblast cell line spheroid attachment to endometrial epithelial cell via Nectin-1.
Differential expression and release of some miRNAs including miR-30d, by the human endometrial epithelium during the implantation window was also reported. MiR-30d can be internalized by trophoectoderm of embryos and alter the expression of embryonic adhesion molecules.
These findings deeply suggest using spent culture media and endometrial fluid miRNAs as biomarkers to predict the success rate of implantation.

Keywords: Biomarkers, Blastocyst, Embryo implantation, Endometrium, MicroRNA.

I-18: A novel method for transmission electron microscopy study of cytoplasmic fragments from preimplantation human embryos

Iman Halvaei [1], **Mohammad Ali Khalili [1*]**, Stefania Nottola [2]

1 - Research and Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran
2- Department of Anatomy, Histology, Forensic Medicineand Orthopaedics, La Sapienza University of Rome, Rome, Italy
[*] *E-mail:* ihalvaei@gmail.com

Abstract

Background: Embryo cytoplasmic fragments have detrimental effects on embryo development, and ultrastructural analysis of fragments may play an important role in fragmentation etiology and in embryo development as well. There are no studies regarding the ultrastructure of fragments in transferable embryos, because the preparation for transmission electron microscopy (TEM) is not vital and embryos are discarded inevitably. This study aimed to introduce a new method for ultrastructural evaluation of fragments without damaging the human cleaving embryos.
Methods: Unfertilized oocytes or discarded embryos were used for making empty zona pellucida (ZP). Micro-pipettes with different sizes were prepared for this method. The embryo selected for TEM evaluation of its fragments, was first incubated in Ca-Mg free media. After filling the fragment removal pipette with PVP, the fragments were gently removed. The removed fragments were inserted into empty ZP and subjected for TEM preparation.
Results: The TEM micrographs showed the fragments have distinct membrane with various cytoplasmic organelles. There were large vacuoles, large mitochondria-vesicle (MV) complexes, primary lysosomes and mitochondria.
Conclusion: In conclusion, for the first time, we report the novel technique of fragments housing inside the empty ZP for ultrastructure study of fragments without disturbing the embryo viability. This method can be also used for evaluation of other biological samples, like debris, granules, and sperm cells.

Keywords: Embryo, Empty zona pellucid, Fragmentation, Transmission electron microscopy.

I-19: Fundamental principles of cryobiology

Fatemeh Hassani, **Karimian L[*]**

- Department of Embryology, Reproductive Biomedicine Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran.
[*] *E-mail:* L_karimian@yahoo.com

Abstract

Cryopreservation is described as the process of cooling and storage of cells in liquid nitrogen at a

temperature of -196o C, within which all metabolic processes are arrested. This so called process is reverse and it arrests normal physiological processes and the dynamic cellular events involved in the division of cells. Cryopreservation occurs through reducing the temperature at a level below the normal one in which all biochemical reactions take place. It is proved to be successful since all the normal functions of the cells are preserved. Normally in cryopreservation, one or more compounds are utilized mainly for the purpose of keeping the cells safe during freezing. The cryoprotectants used are mostly simple, low or high molecular weight molecules which are highly soluble. Spermatozoa were the first mammalian cells to be cryopreserved successfully (Polge et al., 1949). However, over the course of time assorted methods have been developed for different kinds of cells and tissues. Empirical studies and fundamental cryobiology have contributed most to the progressions achieved in this field. Cryopreservation methods have also been amended through the insights gained about the causes of cryo-injury. Protocols for the cryopreservation of spermatozoa, oocytes and embryos have been refined in the last 20 years and gradually adapted as routine procedures in ART programs. There are two methods of cryopreservation which mainly fall into two categories, slow freezing and vitrification. They both follow the same objective which is protecting cells from, cooling effects (chilling injury), intracellular ice formation, dehydration and toxic effects at both high and low temperatures.

Keywords: Cryopreservation, Cryoprotectant, Slow freezing, Vitrification.

I-20: Identification and characterization of male and female germline stem cells

Fariborz Izadyar*

- PrimeGen Biotech 2917 Daimler Street, Santa Ana CA 92705 USA
* *E-mail:* fizadyar@primegenbiotech.com

Abstract
It is univocally accepted that male germline stem cells or spermatogonial stem cells (SSCs) are responsible for start and maintenance of spermatogenesis. However, the existence of a functional oogonial stem cell population in the adult mammalian ovary is still controversial. The aim of this study was to use a mouse model that has GFP (green fluorescent protein) construct in germline specific Oct-4 promoter and track, identify and characterize germline stem cells in both male and female mice. GFP positive cells were found in the testes and ovary of the postnatal mice. Flow cytometry analysis showed that the proportion of GFP positive cells was significantly reduced by age both in male and female mice. Two distinct populations of SSCs were found in the mouse testes, one with the ability of spermatogenesis and the other with multipotent characteristics. Immunohistological and DNA content analysis revealed the existence of oogonial stem cells in postnatal mice. Oogonial stem cells did not show any proliferation activity based on Ki67 staining indicating that they were quiescent. Gene expression profile of female and male germline stem cells showed that they both share same transcription factors involved in pluripotency and self-renewal. Multipotent SSCs were non teratogenic and produced cells from three germ layers. Mouse ovarian germline stem cells produced oocyte like cells during *in vitro* culture. The multipotentiality of ovarian germline stem cells remained to be investigated.

Keywords: Germline, GFP, Oct4, Oogonia, Spermatogonia, Stem Cells.

I-21: Sperm freezing in infertile men with pattern of oligospermia and cryptospermia

Maryam Gholamitabar Tabari [1, 2], **Seyed Gholam Ali Jorsaraei [1*]**, Yousefnia Pasha Yousef Reza [1]

1- Infertility and Reproductive Health Research Center, Health Research Institute, Babol University of Medical Sciences, Babol, Iran
2- Sari Azad University, Sari, Iran
* *E-mail:* alijorsara@yahoo.com

Abstract
Background: To avoid repeated biopsies in patients, severe Oligospermia or Cryptospermia, a lot of time is devoted to collect sperm after freez-

ing and providing the necessary conditions for the patient's infertility treatment cycle. This study investigated the sperm freezing samples in Oligospermia or Cryptospermia deals.
Methods: Collecting library and search in different contexts was the basis for the present study. Sperm freezing from reliable sources that explain various methods were used. The articles were categorized in medical and practical perspective and the discussions had been considered in this study. Scientific sites were also investigated.
Results: In cryopreservation to slow, fast, vitrification, intracellular water should be properly carried out and substituted for it. Large holders with medium used for sperm freezing are essential for sperm survival. Cryopreservation in Oligospermia and Cryptospermia can be useful. Using the zona pellucida, algae Volvox Globatur, Alginate Agarose, Cryolop, Straw and micro needle, methods have been recommended to preserve sperm.
Conclusion: Human sperm can be frozen and reused with success. Cryopreservation has an important role in preserving the fertility of couples undergoing infertility treatment, especially in patients of Oligospermia or Cryptospermia.

I-22: HCG regulates human endometrial epithelial cell adhesion via the L-selectin ligand, MECA-79 implying an important role in implantation

Maryam Kabir Salmani [1*], Reza Nejatbakhsh [2], Ahmad Hosseini [3]

1- Stem Cell and Regenerative Medicine, Institute of Medical Biotechnology, National Institute of Genetic Engineering and Biotechnology, Tehran, Iran
2- Anatomy Department, School of Medicine, Zanjan University of Medical Sciences, Zanjan, Iran
3- Cellular and Molecular Biology Research Center, Medical School of Shahid Beheshti University of Medical Sciences, Tehran, Iran
* *E-mail:* kabirs_m@yahoo.com

Abstract
Background: Molecular interactions at the human embryo-endometrium interface play critical roles in embryo implantation. L-selectin and its carbohydrate ligand are important in the human embryo-endometrial apposition stage of implantation. Blastocyst-derived human chorionic gonadotropin (hCG) plays a significant role during implantation. We aimed to determine the role of hCG and the L-selectin ligand (MECA-79) in implantation using an *in vitro* co-culture model.
Methods: Human choriocarcinoma cell (JEG-3) spheroids co-cultured with the human endometrial epithelial cell line (HES) were used to model blastocyst-endometrial interactions during implantation.
Results: We demonstrated that hCG increased the attachment of trophoblast-like spheroids to HES cells in a concentration-dependent manner. HESC cells treated with hCG at 1 and 5 *IU/ml* did not affect spheroid adhesion, however, when cells were treated with 50 *IU/ml* hCG there was a significant increase in adhesion compared to control. MECA-79 is produced both by human endometrial epithelial cells and HES cells and addition of a MECA-79 blocking antibody during spheroid-HES co-cultures decreased spheroid adhesion to HES cells compared to control. Addition of the MECA-79 neutralising antibody to hCG treated HES cells significantly reduced spheroid attachment to HES cells compared to the hCG alone treatment group.
Conclusion: These data demonstrate that hCG increased JEG-3 spheroid to HES cells and further it occurred via MECA-79. This data is the first to demonstrate that hCG and the L-selectin ligand, MECA-79 regulated endometrial epithelial cell adhesion and it extends our knowledge in embryo–maternal interactions during implantation. This data suggests that targeting endometrial MECA-79 may be useful to facilitate implantation.

Keywords: hCG, Implantation, L-selectin ligand.

I-23: Jonathan Glover and the problem of genetic intervention

Amirhossein Khodaparast*

- Assistant Professor in Philosophy, Iranian Institute of Philosophy, Tehran, Iran
* *E-mail:* khodaparast.amir@gmail.com

Abstract
Genetic interventions in human reproduction have reached to a point that many moral philosophers, nowadays, try to think carefully on the phenome-

non, first, to understand its complicated features and second, to participate in the task of problem-solving about it. Jonathan Glover, who is a well-known British thinker, is among these philosophers. In *Choosing Children: Genes, Disability and Design*, Glover has argued that preimplantation diagnosis is defendable against some moral objections which have been referred to the "Nazi eugenics". He has also argued in favor of parental rights to choose the genetic structure of their children, though these rights are "constrained by what we owe to our children". Any move beyond these constrains, Glover says, would be thought as an "enhancement", which is morally controversial and should be judged according to our understanding of the good human life. In the paper, I introduced Glover's way of thinking on these important matters, and then, compared it with the arguments that some conservative ethicists, like Michael Sandel, has given against Glover-like arguments.

Keywords: Disability, Enhancement, Eugenics, Genetic intervention, Jonathan Glover.

I-24: Evaluation of common polymorphisms of endometriosis in Iranian population

Kioomars Saliminejad [1], Diman Fayez [1], Mina Hasani [1], Faranak Jamshidian [1], Mitra Saket [1], Babak Babaabasi [1], Nafiseh Salmanzadeh [1], Koorosh Kamali [1], Toktam Memariani [2], **Hamid Reza Khorram Khorshid [3*]**

1- Reproductive Biotechnology Research Center, Avicenna Research Institute, ACECR, Tehran, Iran
2- Central Research Lab, North Khorasan University of Medical Sciences, Bojnurd, Iran
3- Genetic Research Center, University of Social Welfare and Rehabilitation Sciences, Tehran, Iran
* *E-mail:* hrkk1@uswr.ac.ir; h.khorramkhorshid@avicenna.ac.ir

Abstract
Background: Endometriosis, a complex and multifactorial disease, is associated with pain and infertility. Endometriosis has a strong genetic component, and numerous genetic studies have been reported. This study was carried out to investigate whether the common polymorphisms in the TNF-α, GSTT1, GSTP1, GSTM1, IL4, IL10, NAT2, CCR2, CCR5, E-cad, P53, PAI-1, PTPN22, XRCC1 and XRCC4 are associated with the susceptibility to endometriosis in an Iranian population.
Methods: Totally, 150 women with diagnosis of endometriosis (Stage I-IV) and 150 normal healthy women with no evidence of the disease were included in the present survey. Genomic DNA from blood was extracted using salting out method. Genotype and allele frequencies of the polymorphisms were compared between endometriosis and control groups using PCR and RFLP methods. Statistical analysis was performed using SPSS 13.0 software. χ^2 and OR with confidence intervals (95%) was determined. P value less than or equal to 0.05 was considered statistically significant.
Results: Analysis of the results showed that the genotype distributions of the TNF-α -1031TC (p= 0.023), IL10 -819TC (p=0.004), NAT2 590GA (p=0.001), GSTM1 Null mut (p=0.011), P53 conon11 (p=0.040), P53 codon72 (p=0.010), P53 codon248 (p=0.028), E-cad 3'UTR+54CT (p= 0.003), XRCC4 -1394 (p=0.003) polymorphisms were significantly different between patients and control groups.
Discussion: Our results suggest that the TNF-α -1031TC, IL10 -819TC, NAT2 590GA, GSTM1 Null mut, P53 conon11, P53 codon72, P53 codon248, E-cad 3'UTR+54CT, XRCC4 -1394 polymorphisms were associated with susceptibility to endometriosis in Iranian population. Further studies using a large sample sizes are recommended to confirm our findings.

Keywords: Association study, Endometriosis, Genetics, Polymorphism.

I-25: Role of *in vitro* proliferation of spermatogonial stem cells in future of male fertility preservation

Morteza Koruji*, Hamid Reza Asgari

- Cellular and Molecular Research Center & Department of Anatomical Sciences, Iran University of Medical Sciences, Tehran, Iran
* *E-mail:* koruji1@gmail.com

Abstract
Spermatogonial stem cells (SSCs) have the potential to self-renew and generate differentiated germ

cells that will eventually lead to sperm. These cells can therefore play an important role in treating infertility, especially when it comes to cancer survivors who have been affected by the long-term adverse effects of cancer treatments. The temporary or permanent infertility after treatment is an important subject in childhood and adult cancer patients (23-30% of them) which decreases quality of life for them. The one approach to overcome infertility for these cases is to cryopreserve small biopsy testicular tissues before chemotherapy and to propagate and autotransplant spermatogonial stem cells from this tissue after cancer survival. So, culturing and the access to sufficient numbers of spermatogonial stem cells (SSC) *in vitro* is necessary for increasing the chance of efficient transplantation. To date, several in vitro SSC culture systems have been developed and these systems include serum or fibroblast feeders, growth factors and 3D culture system with nanofibers. The aim of this abstract was to review studies in proliferation of spermatogonial stem cells.

Keywords: *In vitro*, Proliferation, Spermatogonial stem cells.

I-26: The effect of cisplatin on mouse acute lymphoblastic leukemia and spermatogonial stem cells *in vitro*

Ronak Shabani [1,2], **Morteza Koruji [1,2*]**, Khadijeh Ashtari [1,3], Babak Behnam [1,4], Fariborz Izadyar [5], Hamid Reza Asgari [2], Mehdi Abassi [6], Mohammad Asghari-Jafarabadi [7], Mohsen Ashjari [8]

1- Cellular and Molecular Research Center, Iran University of Medical Sciences, Tehran, Iran
2- Department of Anatomical Sciences, School of Medicine, Iran University of Medical Sciences, Tehran, Iran
3- Department of Medical Nanotechnology and Faculty of advanced technology in Medicine, Iran University of Medical Sciences, Tehran, Iran
4- Department of Medical Genetics and Molecular Biology, School of Medicine, Iran University of Medical Sciences, Tehran, Iran
5- Prime Gen Biotech LLC, 2917 Santa Ana CA 92705, USA
6- Department of Anatomy, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran
7- Research Center for Road Traffic Injury Prevention, Tabriz University of Medical Sciences, Tabriz, Iran
8- Chemical Engineering Department, Faculty of Engineering, University of Kashan, Kashan, Iran

[*] *E-mail:* koruji1@gmail.com

Abstract
Testicular cancer is the most common cancer affecting men in reproductive age, and cisplatin is one of the major helpful chemotherapeutic agents for treatment of this cancer. In addition, exposure of testes cancer cells to cisplatin could potentially eliminate tumor cells from germ cells in patients. The aim of this study was to evaluate the effect of cisplatin on viability of mouse acute lymphoblastic leukemia cell line (EL-4) and neonatal mouse spermatogonial cells in vitro. In this study, the isolated spermatogonial stem cells (SSC) and EL-4 were divided into six groups including Control (received Medium), Sham (received DMSO in medium) and Experimental groups which received different doses of cisplatin (0.5, 5, 10, 15 *µg/ml*). Cells viability was evaluated with MTT assay. The identity of the cultured cells was confirmed by the expression of specific markers. Our finding showed that viability of both SSC and EL-4 cells was reduced with the dose of 15 *µg/ml* when compared to the control group ($p \leq 0.05$). Also, the differences between the IC50 in doses 10 and 15 *µg/ml* at different time were significant ($p \leq 0.05$). The number of TUNEL-positive cells was increased, and the *BAX* and *Caspase3* expressions were up-regulated in EL4 cells for group that received an effective dose of cisplatin. In conclusion, despite the dramatic effects of cisplatin on both cells, spermatogonial stem cells could form colony in culture.

Keywords: Cisplatin, EL4 cells, SSCs, TUNEL assay, Viability.

I-27: National Organization for Civil Registration regulations and the provision of Article 648 Penal code of Iran (Approved 1996)

Alireza Milanifar [*], Golanna Ashtari

- Reproductive Biotechnology Research Center, Avicenna Research Institute, ACECR, Tehran, Iran
[*] *E-mail:* milanifar@avicenna.ac.ir

Abstract

Article 648 of Penal Code of Iran makes it an offence to disclose patients' medical information and the physician is liable to pecuniary punishment (50-200 US dollars) or will face 91 days up to one year imprisonment penalty. The authors believe that this Article has been written poorly and to some extent is very vague and the penalty for physicians is not appropriate.

According to Article 648, the disclosure of patients' medical information by physicians is only permitted by the law, except the actual event of baby's birth in which Article 15 and 19 of Registration Act of 1976 applies. The information related to the way pregnancy and the delivery of a baby has been achieved (in case of infertile couples which Assisted Reproductive Technologies they have used), are considered as patients' medical information and patients' secrets. Disclosure of such information is not mentioned in statute.

Patient's consent to any intervention should have elements which are called 'informed consent' in medicine. Furthermore, the doctor-patient relationship is considered as a contract in Iranian Law, thus consent must meet the general qualifications of a contract. Since the issuance of baby's ID card is provided to present documents which are not mentioned by the law, disclosure of patients' medical information should not be regarded as something that physicians has consented to. Basic public services for babies such as vaccination, supply of special milk powder, some medications and applying for medical insurances are subject to issuance of ID cards and National Number for babies. In fact, the National Organization for Civil Registration (NOCR) is a subdivision of the Ministry of Interior. Therefore this organization has no authority over the Ministry of Health and Medical Education, hospitals, physicians, etc, except by the law.

Having said all these, it seems that first, the obligation and compulsion for doctors to enforce the NOCR regulations based on administrative hierarchy is not possible. Second, the consent obtained from the beneficiary by coercion is considered as an invalid consent and should not put a physician and health care providers in violation of Article 648. Thus requests, oral or written inquiries, local research or obtaining medical information from applicants of ID cards for example; requesting hospital records, quality of pregnancy and finally legislating or inquiry about the interval between marriage and pregnancy, from NOCR lacks legal validity. Such issues resulting from applying provisions of Article 648 and regulations of NOCR, requires scrutiny from the medical law and ethics perspective.

Keywords: Assisted reproductive technologies (ART), Civil Registration, Fertility treatment, ID card, Identification documents.

I-28: Comparison of freezing methods for cryopreservation of umbilical cord Wharton's jelly stem cells

Zeinab Abdollahi, **Tooba Mirzapour***, Abolfazl Bayrami

- *Department of Biology, Faculty of Science, University of Mohaghegh Ardabili, Ardabil, Iran*
* *E-mail:* Dr.tooba72@gmail.com

Abstract

Using proper freezing solution and then storing the cells in liquid nitrogen can support them in freezing condition for long-term. These cells again resume their normal physiological process after thawing. In this study, human umbilical cord warton's jelly was cultured in DMEM containing 20% fetal calf serum (FBS) by method of Piece tissue culture. Aliquots of ~0.5-ml isolated cell suspension (3-5×10^6 *cells/ml*), were transferred to 1.8-*ml* polypropylene cryovials. Then, an equal volume of freeze-concentrated media (DMEM containing 10% (*v/v*) DMSO and 10% (*v/v*) (FCS) and 0.07 *M* sucrose) was added to an Eppendorf vial in two groups 1) for a time period of 10-15 *min* 2) quickly. Then, 1.8- *ml* cryovials that had a mixture of 1.0 *ml* of cell suspension with freezing medium were kept in -20°*C* for 2 *hr* and then -80°*C* for 24 *hr*. Then, it was plunged into the liquid nitrogen. Following 1 month of cryopreservation, the tubes were taken out, thawed in water bath (38°*C* for 2 *min*) and the content of it was then put into another tube and diluted by adding two volumes, drop wise of DMEM supplemented with 10% FCS slowly to the tube. After centrifuging at 448 *g* for 5 *min*, the supernatant was discarded and the pellet resuspended in DMEM/FCS. Some of the sample cells were stained with trypan. The results showed that in the first method of

cryopreservation, the percentage of cell viability was increased after thawing, So that 85% of the cells started growing after freezing. In the second method, cell viability was under 50% (46/04±1.2). The slow cryopreservation of umbilical cord warton's jelly stem cells is an effective method for long-term preservation and increasing cell viability after thawing.

I-29: Non- invasive Quality Assessment s of Human Embryo for Successful Transfer

Behrooz Niknafs*

- Department of Anatomical Sciences, Medical Faculty, Tabriz University of Medical Sciences, Tabriz, Iran
* *E-mail:* niknafsbeh@yahoo.com

Abstract
The selection of suitable human embryos for transfer in IVF has been performed through the morphological analysis. Although morphological evaluation have been developed by different techniques like Timelapse , pregnancy rates in IVF procedures have not improved as it is expected.
There is need to find new or complementary assessments based on embryos' function; Proteomics, metabolomics and microRNAomics. Their detection methods are carried out through embryo cultured medium analysis.
MicroRNAs regulate %30 of all genes. Human embryos could also secret specific MicroRNA in endometrial environment which is necessary for implantation success. Two MicroRNA (from TE biopsy) significantly different between implanted (miR 512-5p, miR 512-3p) and unimplanted blastocysts (miR 20a-5p, miR 30-5p). Aneuploid and euploid blastocysts express a panel of miRnas (miR 191) in different levels. MiR 191 and miR372 are found abundant in culture medium from failed IVF–cycle embryo in comparison with successful pregnancy. MiRna 372 is expressed highly in high quality blastocyst. As well as miRna secreted by viable and non–viable embryos might be different. There are some limitations in micro RNA assessment. The main challenges are to develop a validate and reliable protocols for application in human IVF clinics.

I-30: The role of menstrual blood stromal stem cells in pathogenesis of endometriosis

Shohreh Nikoo*

- Reproductive Immunology Research Center, Avicenna Research Institute, ACECR, Tehran, Iran
* *E-mail:* sh_nikoo2000@yahoo.com

Abstract
Endometriosis is one of the most common diseases which severely affects the health and reproductive function of women of childbearing age. There are fundamental abnormal changes within the eutopic endometrium of women with endometriosis compared to normal endometrium of women without endometriosis. Our study showed that stromal stem cells from endometriosis (E-MenSCs) were morphologically different from non-endometriosis (NE-MenSCs) and showed higher expression of CD9, CD10 and CD29. Furthermore, E-MenSCs had higher proliferation and invasion potentials compared with NE-MenSCs. The amount of indoleamine 2,3-dioxygenase-1 (IDO1) and cyclooxygenase-2 (COX-2) in E-MenSCs co-cultured with allogenic peripheral blood mononuclear cells (PBMCs) was shown to be higher both at the gene and protein levels, and higher IDO1 activity was detected in the endometriosis group. Nonetheless, interferon (IFN)-γ, Interleukin (IL)-10 and monocyte chemoattractant protein-1 (MCP-1) levels were higher in the supernatant of E-MenSCs-PBMC co-cultures. Here, we showed that there are inherent differences between E-MenSCs and NE-MenSCs. These findings propose that MenSCs have a great role in the pathogenesis of endometriosis and further support the retrograde and stem cell theories of endometriosis. Hence, considering its renewable and easily available nature, menstrual blood could be viewed as a reliable and inexpensive material for studies addressing the cellular and molecular aspects of endometriosis.

Key words: Endometriosis, Menstrual blood, Pathogenesis, Stromal stem cells, Surface marker expression.

I-31: Semen parameters in patients with thyroid dysfunction

Hassan Niroomand [1*], Atoosa bagheri behzad [2], Moein Nasiri [3]

1- Department of Urology, Imam Reza Hospital, AJA University of Medical Sciences, Tehran, Iran
2- Department of Gynecology, Moheb Yas Hospital, Tehran University of Medical Sciences, Tehran, Iran
3- Imam Reza Hospital, AJA University of Medical Sciences, Tehran, Iran
[*] *E-mail:* hassanniroomand@ajaums.ac.ir

Abstract

Background: Infertility is a common problem affecting many people worldwide and recognition of the contributing factors is necessary. Regarding the importance of issue, this study was performed to determine the semen parameters in men with thyroid dysfunction.
Materials: This cross-sectional study was performed among 30 consecutive patients with hypothyroidism or hyperthyroidism attending a general hospital in 2013.
Results: Eleven patients (36.7%) had oligospermia which among them, 8 were hypothyroid and 3 were hyperthyroid without significant difference (p=0.515). Nine patients (30%) had abnormal sperm morphology and among them, 7 were hypothyroid and 2 were hyperthyroid without significant difference (p=0.657). Ten patients (33.3%) had abnormal motility and among them, 8 were hypothyroid and 2 were hyperthyroid without significant difference (p=0.571).
Conclusions: Finally, it should be recommended to screen in subjects with infertility for thyroid disorders. In these subjects the treatment of thyroid problems is more effective for improvement of secondary infertility.

I-32: *In vitro* spermatogenesis: past, present, future

Mohammad Nouri [1*], Amir Fattahi Nouri, mohammad [1], Zeinab Latifi [2]

1- Women's Reproductive Health Research Center, Tabriz University of Medical Sciences, Tabriz, Iran
2- Department of Clinical Biochemistry, Faculty of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran
[*] *E-mail: nourimd@yahoo.com*

Abstract

Background: Men with azoospermia prefer genetic parenthood instead of using donated gametes. Considering self-renew and differentiation ability of pluripotent stem cells, some studies have pointed out the possibility of stem cell derived sperm production. Most studies in this context have been conducted on rodents and some results are promising but studies on human face with some ethical issues are progressing slowly.
Methods: However, recently some expression specific markers of human mature germ cells have been reported. Previously, sperm-like cells with fertilizing ability have been produced from mouse embryonic stem cells. The resulting embryos from these cells lead to live offspring, although the offspring died prematurely due to DNA methylation abnormalities. Some new methods for differentiation of stem cells such as embryoid body, co-culturing and various feeder cells, have also been used.
Results: These techniques prepare niche more similar to *in vivo* condition and solve DNA methylation abnormalities. However, still a gonadal-like three-dimensional structure is required for producing germ cells with correct imprinting. Also, due to unavailability of embryonic cells in adults, future research should move towards the use of adult stem cells residing in bone marrow and peripheral blood. Since in vitro spermatogenesis can give hope to the male without sperms who are untreatable now, it can be a useful system to study precise mechanism of spermatogenesis.
Conclusion: In this review, we described recent studies of *in vitro* spermatogenesis and its related techniques. We also discuss possible cell surface markers and cultured conditions which could improve in vitro spermatogenesis.

Keywords: Gametogenesis, Infertility, Spermatogenesis.

I-33: Anonymity in donation programs: ethical perspective

Reza Omani Samani[*]

- Department of Epidemiology and Reproductive Health, Reproductive Epidemiology Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran
[*] *E-mail:* r.samani@gmail.com

Abstract

Background: Assisted reproductive techniques have brought hope for infertile couples to have children and for some couples there is no way for this aim except third party reproduction including egg, sperm or embryo donation. In the world, these programs are performed in two shapes: known donor (UK, Australia) and with anonymous donor (Denmark, France). Some countries do both of them upon the client's request (Belgium). Iran is the only Islamic country in which donation programs are practiced upon decrees of clergy scholars. Currently, only embryo donation has a supportive law in which anonymity is mentioned. Other donation programs have no law and are permitted just by decrees of Shiite scholars.

Methods: In this paper, ethical issues on con and pro anonymity was discussed including: children rights to know their genetic parents, lineage, guardianship, custody, expenditure, inheritance, intimacy potential psychological problems of the child, stigma, and possibility of marriage between brothers and sisters. A detailed search in available sources including papers, books, law, legislations and local and international documents was done and arguments were listed and reasonable answers to the arguments were provided using the resources.

Conclusion: It seems that as long as there are legal problems linked to the lineage, and legal lineage or social parents that are not accepted by Islamic scholars, anonymity is the only way to protect the donor and recipient families and also the resulting child.

Keywords: Anonymity, Donation, Embryo, Ethics, Gamete, Islam.

I-34: Intraobserver and interobserver reliability of asrm staging system for endometriosis by watching laparoscopic video tapes by two laparoscopic surgeons in Avicenna endometriosis center from 2012 till 2013

Roya Padmehr, Khadijeh Shadjoo, **Arash Mohazzab**[*]

Avicenna Endometriosis Centre, Tehran, Iran
[*] *E-mail:* a.mohazzab@avicenna.ac.ir

Abstract

Background: There are several classification systems for endometriosis but inter-observer and intra-observer reliability of most of them was not assessed. The most famous type of them is asrm classification system. In this study, we observed intra-observer and inter-observer reliability of asrm staging system.

Methods: After coding, 64 edited videos from endometriosis laparoscopic surgeries were reviewed by two laparoscopic surgeons. asrm staging system was scored two times separately for each video by two surgeons. Inter-observer and intra-observer reliability was analyzed with intra-class correlation coefficient.

Results: The highest icc score was reported for ovaries and the lowest for culdosac and peritoneal lesions. It seems that right side lesions had greater agreement

Conclusion: asrm system had good intre-observer and intra-observer reliability but it was less in agreement with culdosac and peritoneal lesions and regarding the severity of endometriosis in left side, less agreement was seen in left compartments.

Keywords: asrm, Endometriosis, Ovaries, Reliability, Scoring system.

I-35: Association of fetal aneuploidy with mother's genotype

Maryam Rafati [1,2,3], Hosna Amiri [1,4], Faezeh Mohamadhashem [1,5], Asieh Darunkolaee [1], Zeinab Barati [1], **Saeed Reza Ghaffari** [1,2,3*]

1- Reproductive Biotechnology Research Center, Avicenna Research Institute, ACECR, Tehran, Iran
2- Comprehensive Genetic Center, Hope Generation Foundation, Tehran, Iran
3- Gene Clinic, Tehran, Iran
4- Department of Genetics, Zanjan Branch, Islamic Azad University, Zanjan, Tehran, Iran
5- Department of Medical Genetics, Tehran University of Medical Sciences, Tehran, Iran
[*] *E-mail:* saeed@ghaffari.org

Abstract

Background: Pregnancy loss is estimated to happen in approximately 70% of all conceptions. The

most important and first investigated cause of pregnancy loss is fetal aneuploidy due partly to errors in paternal meiosis or failures in fetal mitosis. At least 75% of human embryos are aneuploid on the third day after conception. It has been recently claimed that rs2305957 genotype in mother is associated with fetal aneuploidy. The population frequency of minor allele is reported as 20-45%. Our study aimed to investigate the association of the mentioned variant in mothers with fetal aneuploidy.

Methods: DNA samples from 68 mothers with euploid fetuses and 11 mothers with aneuploid fetuses were genotyped for the rs2305957 variant using Sanger sequencing method.

Results: The ratio of AA genotype to GG genotype among mothers with aneuploid fetuses was 6.52. The average maternal age of mothers with GG, AG and AA genotype were 35.75, 37.83 and 31 years in aneuploid group and 30.95, 29.93 and 30 years in euploid group, respectively. Among all studied samples, the frequency of Allele "A" was 21.56% and the frequency of allele "G" was 78.44%.

Discussion: The frequency of AA genotype in mothers with aneuploid fetuses was more than mothers with normal fetuses. Moreover, the average maternal age in mothers with AA genotype and aneuploid fetuses was significantly less than mothers with other genotypes. This reveals that fetal aneuploidy in mothers with AA genotype is more influenced by genotype than age. The frequency of A allele in Iranian population is 21.56%, that is close to the reported frequency of this allele.

Key words: Aneuploidy, Preimplantation genetic screening, Genotype, DNA variant, Embryo.

I-36: A struggle to realize a dream: A phenomenological study of women's lived experiences from assisted pregnancy

Fahimeh Ranjbar [1*], Mohammad-Mehdi Akhondi [2], Leili Borimnejad [3], Saeed-Reza Ghaffari [2], Zahra Behboodi-Moghadam [1]

1- School of Nursing and Midwifery, Tehran University of Medical Sciences, Tehran, Iran
2- Reproductive Biotechnology Research Center, Avicenna Research Institute, ACECR, Tehran, Iran
3- School of Nursing and Midwifery, Iran University of Medical Sciences, Tehran, Iran
* *E-mail:* fahimeh_ranjbar@yahoo.com

Abstract

Background: Getting pregnant is not synonymous with the end of infertility problems. Infertility treatment is considered as an emotionally and physically burdensome process. The related stressors of assisted reproductive technologies (ARTs) are interminable even during pregnancy. This study was conducted to explore the meaning of assisted pregnancy.

Method: Hermeneutic phenomenological method as described by van Manen was selected to carry out the research. The participants were 12 infertile women who had conceived through ARTs and described their experience of pregnancy through ARTs. Interviews were recorded and transcribed in a verbatim way and they were analyzed using van Manen interpretative phenomenological strategies concurrently.

Results: Assisted pregnancy is a process of struggling to realize a dream which includes going through all difficulties, changing in life style, and spirituality.

Conclusion: Assisted pregnancy is a new and hard struggle for infertile women to fulfill the dream of becoming a mother. They had to go through the difficult physical, emotional, and financial treatments in which they did not give up their dream until they put it into reality. Infertile women experience a variety of distresses in assisted pregnancies and consequently health care providers should be well aware of the special care needed in these pregnancies.

Key words: Assisted reproduction technology, Infertility, Phenomenology, Pregnancy.

I-37: Adoption or infertility treatment

Mohammad Rasekh [1*], Faezeh Ameri [2], Fatemeh Domanloo [2]

1- Professor of Public Law and Jurisprudence, Shahid-Beheshti University & Head of Bio Law and Ethics Department, Avicenna Research Institute
2- Reproductive Biotechnology Research Center, Avicenna Research Institute, ACECR, Tehran, Iran

* E-mail: m-rasekh@sbu.ac.ir

Abstract
Adoption, that was recognised in various forms in socio-legal systems since early times, has been somewhat marginalised due to the emergence of modern methods of infertility treatment and the possibility of pregnancy with the help of third parties' gametes or embryos. The question, however, is that which of the two mentioned options is morally preferable. On the one hand, infertile couples may choose, arguing from the principles of autonomy and bodily integrity, to use ARTs so as to have a child out of their own biological origins. On the other hand, proponents of adoption may, in addition to considering it as a praiseworthy moral act, take into question the moral reason for producing offspring when there are already many abandoned children in the world. Thus, they may argue that allocation of public and private resources to infertility treatment is hardly justified. Moreover, they consider upbringing and affectionate relationship, instead of a biological/ genetic one, as the most important element of the formation of parenthood, hence, recommending adoption. On the face of it, it is hard to choose between the arguments for each of the two options, though it is imperative on us to meticulously deal with and evaluate those arguments.

Keywords: Adoption, Autonomy, Biological origins, Bodily integrity, Infertility treatment, Morally praiseworthy, Parenthood.

I-38: Right to reproduction: limited or absolute?

Mohammad Reasekh [1*], Shirin Boroomand [2]

1- Professor of Public Law and Jurisprudence, Shahid-Beheshti University & Head of Bio Law and Ethics Department, Reproductive Biotechnology Research Center, Avicenna Research Institute, ACECR, Tehran, Iran
2- Reproductive Biotechnology Research Center, Avicenna Research Institute, ACECR, Tehran, Iran
* *E-mail: m-rasekh@sbu.ac.ir*

Abstract
Human reproduction has been appropriately expressed in terms of rights. Human beings, it is argued, have a right to reproduce. This right may be fully utilised by fertile couples, though the infertile ones are faced with several restrictions in their way of overcoming the related illness. For instance, based on Section 2 of the Law on the Method of Embryo Donation to the Infertile Couple (2003), infertile couples have to undergo various physical and non-physical screenings, before a donation may be made to them. Thus, it seems that the infertile couple, contrasted with the fertile one, bears a double burden in eliminating the impediments to the exercise of their right to reproduction. The burden consists of making efforts to cure the infertility illness and observing certain serious legal limits on such efforts. A question then arises as to the justification for the afore-said limits. Given the nature of the right to reproduction, it can be argued that the limits have to be minimal. Furthermore, it may be argued that the logic of a minimalist limiting approach to the right to reproduction may in turn be universally applied to all cases of such a right, be them those of fertile, infertile or quasi-fertile ones.

Keywords: Justification, Limits, Minimal, Right to reproduction.

I-39: Hepatitis C screening: the critical role of laboratories in infertility management in Iran

Ali Sadeghitabar [1*], Reza Nasiri [1], Haleh Soltanghoraei [2]

1- Avicenna Infertility Clinic, Avicenna Research Institute (ARI), ACECR, Tehran, Iran
2. Reproductive, Biotechnology Research Center, Avicenna Research Institute (ARI), ACECR, Tehran, Iran
* *E-mail:* asadeghitabar@yahoo.com

Abstract
Background: Being devoid of viral infections especially Hepatitis and AIDS, is significant and necessary in infertility treatment and therefore HBs Ag, HCV and HIV testing are severely important at beginning of the cycle. In case of positive results for the mentioned viral infections after the beginning of the treatment, vital opportunities may be lost plus enforced expenditures. The specificity and sensitivity of the methods which are different due to the applied technology in the manufacturing procedure are effective factors on

the laboratory results accuracy. Liver inflammation or hepatitis may occur by viral infections in acute or chronic forms. Hepatitis C as a manifold liver disease is caused by hepatitis C Virus (HCV) which can be transmitted through blood contacts.
Methods: In a comprehensive study, we analyzed the ability of methods which were applied by about 1000 laboratories to determine the low titer of antibodies for hepatitis C during the External Quality Assessment Program (EQAP) in Iran. During the 19 periods of EQAP procedure since 2010 until 2015, laboratories were checked 17078 times for anti HCV Ab test.
Results: The rate of false results or errors was different from 3.1 to 19.58 in percent. Totally, the error percentage of the laboratories for anti HCV test at the end of 19 times of EQAP was 8.71 percent. Closer studies showed that there was an indirect relation between the method technology or advanced protocols and errors percentage.
Conclusion: The rate of error in immunochromatography or home rapid tests or Point of Care Testing (POCT) was higher than others. Besides, developed methods such as ECL or CL had the minimum false results. At the first stages of infertility treatment it is necessary to determine viral infections using high tech and up to date methods and avoid rapid and POCT tests.

I- 40: Spermatogonial Stem Cell Technology and its Future Clinical Applications

Hooman Sadri-Ardekani, M.D., Ph.D [1,2,3*]

1- Wake Forest Institute for Regenerative Medicine
2- Department of Urology; Wake Forest School of Medicine, Winston-Salem, North Carolina, USA
3- Reproductive Biotechnology Research Center, Avicenna Research Institute, ACECR, Iran
[*] *E-mail:* hsadri@wakehealth.edu

Abstract
Male infertility management has made significant progress during the past three decades, especially after the introduction of intracytoplasmic sperm injection (ICSI) in 1992. However, many boys and men still suffer from primary testicular failure due to acquired or genetic causes. New and novel treatments are needed to address these issues. Spermatogenesis originates from spermatogonial stem cells (SSCs) that reside in the testis. Many of these men lack SSCs or have lost SSCs over time as a result of specific medical conditions or toxic exposures. Loss of SSCs is critical in prepubertal boys who suffer from cancer and are going through gonadotoxic cancer treatments, as there is no option of sperm cryopresrvation due to sexual immaturity. The development of SSC transplantation in a mouse model to repopulate spermatozoa in depleted testes has opened new avenues of research in other animal models, including non-human primates. Recent advances in cryopreservation and *in vitro* propagation of human SSCs offer promise for human SSC autotransplantation in the near future. Ongoing research is focusing on safety and technical issues of human SSC autotransplantation to generate spermatogenesis. This is the time to counsel parents and boys at risk of infertility on the possibility of cryopreserving and banking a small amount of testis tissue for potential regenerative medicine application.

I-41: Comparative study of Toll like Receptor 4 expression in oocytes derived from *in vivo* and in vitro maturation

S. Hosseini [1, 2], **Mohammad Salehi** [3*]

1- Department of Reproductive Biology and Anatomical Sciences, Faculty of Medicine
2- Department of Transgenic Animal Science, Stem Cell Technology Research Center
3- Department of Biotechnology, School of Advanced Technologies in Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran
[*] *E-mail:* Msalehi78@gmail.com

Abstract
Toll-like receptors (TLRs) as members of innate immune system are thought to affect fertility. To date the expression of TLRs in granulosa, cumulus cells and ovarian tissues has been reported. However, no research has been found concerning TLRs expression in oocytes. Therefore, the objective of this study is to examine TLR4 gene expression in oocytes derived from *in vitro* maturation in comparison with *in vivo* matured one. Immature oocytes were collected from female BDF1 species mice by dissection method 48 *hr* after administration of PMSG. Only immature oocytes surrounded by 3-4 layers of cumulus cells were selected and placed in IVM medium. Following

20 *hr*, oocytes in this group were denuded and their maturation was then assessed. In order to collect *in vivo* matured oocytes, PMSG priming followed 48 *hr* later by HCG. Subsequently, oocytes were isolated from oviduct ampulla 14 *hr* after HCG injection and detached from cumulus mass. The expression level of TLR 4 in MII oocytes of both groups was assessed by quantitative Real-time PCR. To examine the protein expression level of TLR4, immunocytochemistry (ICC) technique was carried out.
QRT-PCR and ICC results revealed that TLR4 was expressed at both mRNA and protein level in two groups of oocyte. The TLR4 mRNA and protein expression was increased significantly in IVM group compared with control (p<0/05).
In conclusion, detection of TLR4 in both *in vivo* and in vitro matured oocytes suggests that oocytes TLR4 may play an important role in oocyte maturation. Additionally, it is believed that culture condition for IVM increase the expression level of TLR4 in oocyte which might affect its developmental competence and fertilization. However, further investigations are necessary in order to identify the role of TLR4 in oocyte.

I-42: Fertility preservation

Mojdeh Salehnia*

- Department of Anatomy, Tarbiat Modares University, Tehran, Iran
* *E-mail:* salehnim@modares.ac.ir

Abstract
Fertility preservation is a new branch of reproductive medicine and involves the preservation of gametes (sperm and oocytes), embryos, and ovarian and testicular tissues. This technology provides advantages for millions of people suffering from reproductive dysfunction such as cancer patients whose reproductive functions were damaged by chemotherapy and radiotherapy. The most common fertility preservation technique is cryopreservation, which involves freezing the cells and tissues at cryogenic temperatures. There are two major techniques for cryopreservation: slow freezing and vitrification methods. The major difference between them is the prevention of ice formation in vitrification. Recently, cryopreservation of ovarian and testicular tissues has been investigated with different range of success. Ovarian cryopreservation and testicular tissue preservation may be the only choice for pre pubertal patients. Cryopreservation of gametes is an important tool in assisted reproduction technique. It is now possible to cryopreserve spermatozoa, oocytes and embryos at different developmental stages to offer patients a significant range of options to suit their individual fertility problem. However, cryopreservation is now considered an essential adjunction to modern reproductive treatments.

I-43: Association study of *miR-196a2* rs11614913 and miR499a rs3746444 polymorphism with risk of idiopathic recurrent pregnancy loss in Iranian women

Nasser Salsabili [1*], Reza Mirfakhraie [2], Mir Davood Omrani [2], Mona Amin Beidokhti [2]

1- Anatomist, Embryologist; Ivf dept. Mirzakouchkhan hospital, Rehabilitation faculty
2- Assistant Prof;Genetic dept,Shahid Beheshti University of Medical Sciences
* *E-mail:* nsalsabili@tums.ac.ir

Abstract
Background: Recurrent pregnancy loss (RPL) is defined as the occurrence of two or more consecutive pregnancy loss prior to 20th week of gestation. There are several leading causes of RPL including uterine anatomical defects, genetic factors, male factors, infectious, immunological, environmental and blood dyscariasis. However, despite the large number of cases, no cause has been identified and is classified as idiopathic. Recent studies have implicated miRNAs in endometriosis, preeclampsia, infertility and RPL. Therefore, the aim of the present study was to investigate the association of *miR-196a2C>T* (rs11614913) and miR499aT>C(rs3746444) with RPL.
Methods: We conducted a case–control study of 185 Iranian women: 85 patients with at least two unexplained consecutive pregnancy losses and 100 healthy controls with at least one live birth and no history of pregnancy loss. Patients with recurrent pregnancy losses due to anatomic, hormonal, chromosomal, infectious, autoimmune, or

thrombotic causes were excluded from the study group. Genotyping of miR196a2C>T and miR499aT>C were performed using tetra-primer amplification refractory mutation system PCR (TARMS- PCR) and PCR-RFLP, respectively.
Results: Significant difference in distribution of *miR-196a2* rs11614913 genotypes was found in RPL patients in comparison to controls, with P-value of 0.04 and odds ratio equal to 2.69 (95% CI: 1.03-7.03) and there was not significant difference in distribution of *miR-499a* rs3746444 genotypes.
Conclusion: We provided evidence for association between genetic variations in *miR-196a2* and recurrent pregnancy loss**.** Further studies are required to validate the significance of the studied genetic variation in diverse ethnic populations.

Keywords: MicroRNA, Polymorphism, Recurrent pregnancy loss, rs11614913, rs3746444.

I-44: The impact of laparoscopic cystectomy of ovarian endometrioma on AMH level and pregnancy outcome of patients referred to endometriosis and advanced laparoscopy clinic of Avicenna Fertility Center in 2013 and 2014

Khadijeh Shadjou*

- *Avicenna Research Institute, Tehran, Iran*
* *E-mail:* drshadjoo@gmail.com

Abstract
Background: The impact of resection of ovarian endometrioma through laparoscopic cystectomy because of its effect on reducing the ovarian reserve is debated.
Methods: This was a cohort study among 55 women between the ages 15 and 45 who underwent a laparoscopic surgery because of any benign gynecologic diseases. Findings of surgery, sonography and pathology reports were evaluated and the patients were divided into two groups. Group 1 who had endometriomas and second group had not endometriomas and they were 37 and 18 patients, respectively. For evaluating the impact of other factors such as age and surgical interventions the, control group was used. We assessed the impact of endometrioma laparoscopic cystectomy by trimming and excision method on AMH levels as a remarkable factor for ovarian reserve before and one year after surgery. Paired sample T test was used to compare the parametric variable before and after surgery. For non-parametric variables we used independent T test and Chi-square and Macnemar. P.value less than 0.05 was considered to be significant. Data were analyzed by SPSS 11.5.
Results: There was a reduction in AMH levels one year after surgery in both groups which was statistically significant (p-value: 0.001). Although there was a decrease in both unilateral and bilateral cysts (p-value:0.005), the decrease in bilateral cysts was more than unilateral cysts (57.5% *vs* 50%). Cysts larger than 3 *cm* had 49.1% decrease in AMH levels however this was 14.1% in cysts smaller than 3 *cm* (p-value<0.005). During three years follow up 53.84% of the endometrioma group and 70% of the nonendometrioma group got pregnant (p-value=0.455). But this nonsignificant difference seems to relate to lack of sample size.

I-45: Genome editing of non-human animals

Mehdi Shamsara*, Abbas Jamshidizad, Aidin Rahim-Tayefeh, Ehsan Hashemi

- *National Research Center for Transgenic Mouse, National Institute of Genetic Engineering and Biotechnology, Tehran, Iran*
* *E-mail:* shamsa@nigeb.ac.ir

Abstract
Background: Genetically-modified non-human animal models are largely significant in biomedical researches and agriculture. Genome editing via homologous recombination (HR) has been the standard method to modify genomic sequences. However, initially the technology was hampered by technical difficulties and limitations, it has now largely been overcome by progressive improvements over the past 30 years. Nuclease-guided genome editing methods that were developed recently, such as ZFN, TALEN and CRISPR/Cas, have opened new perspectives for transgenic animals. Genome editing using these new technologies enables modification of genetic material in targeted ways. One-step generation of

animals carrying mutations in multiple genes have been reported with Nuclease-guided genome editing tools. In the context of animal breeding one use of genome editing tools could be to fix a small number of undesirable alleles in individuals that have high breeding values. In the field of biomedicine, experiments on current animal models are costly and time-consumable, as well as have uncertainly results for applying in human. The step change to genome-edited animals may accelerate the path to make humanized animal models. In addition, it may have economic incentives for producers, also compelling benefits for animals, consumers, and the environment.

Keywords: Genome editing, Homologous recombination, Non-human animals, Nuclease-mediated genome editing.

I-46: Isn't it the time to think of devising new approaches in cryobiology?

Aboulfazl Shirazi [1,2*], Mohammad Mehdi Naderi [1], Sara Borjian-Borojeni [1], Ali Sarvari [1], Bahareh Behzadi [1], Samaneh Sadeghnia [1], Ali Malekpour A [1]

1- Reproductive Biotechnology Research Center, Avicenna Research Institute, ACECR, Tehran, Iran
2- Research Institute of Animal Embryo Technology, Shahrekord University, Shahrekord, Iran
* *E-mail:* shiraziabbas@yahoo.com

Abstract
Cryobiology is a crucial area of research for modern biotechnology due to the importance of biobanking in fertility preservation, stem cell storage systems, organ banking for transplants as well as storage for engineered tissues. At present, the success in cryopreservation technology has been limited to cell lines and very small tissues and more research is required before whole organs can successfully be cryopreserved while retaining their biological integrity. In the meantime, the formation of damaging ice crystals during the freezing process and the use of permeable cryoprotectants that result in long term destruction of tissue during storage are the most important concerns. Nevertheless, it seems in the near future the use of cryoprotectants (CPAs) has no future and the use of CPAs is a dead end, at least in organ freezing.

The application of magnetic resonance freezing (MRF) known as the Cells Alive System (CAS) allows freezing of tissue without the formation of ice crystals by using magnetic fields that vibrate water to prevent freezing at low temperatures. This system has been successfully applied in cryopreservation of brain tissue, boar spermatozoa, entire ovaries without cryoprotectants, as well as long term tooth preservation.
In the CAS-freezing technique, the applied alternating magnetic field during freezing process, causes the vibration of water molecules which minimize ice crystal formation, even at supercool temperatures of -10°*C*.
On the other side, application of radio frequency heating of magnetic nanoparticles (mNPs) apart from its tunability of heating rate, improves the thawing of cryopreserved biomaterials. Indeed, the significant heating of mNPs which can be homogenously distributed throughout macro- and microscopic tissues leads to distribution of heat effectively enough to avoid devitrification (*i.e.* crystallization) and cracking.
Despite all the progress achieved in the field of cryobiology such as ultra-rapid freezing, vitrification, freeze-drying, and the advent of new CPAs and cryodevices, it seems the time has arrived to drop the failed chemical approaches and invest money and research into the more promising area based on not using the toxic permeable CPAs.

I-47: Evaluation of *in vitro*-derived germ cell contribution in oogenesis in female mice ovaries

Reza Shirazi [1*], Vahid Najafzadeh [2], Maryam Baazm [3], Amir Hassan Zarnani [4], Fardin Amidi [5], Aligholi Sobhani [5]

1- Department of Anatomical Sciences, School of Medicine, Iran University of Medical Sciences, Tehran, Iran
2- Department of Biological Sciences, Faculty of Science & Engineering, The University of Waikato, Hamilton, New Zealand
3- Department of Anatomical Sciences, School of Medicine, Arak University of Medical Sciences, Arak, Iran
4- Nanobiotechnology Research Center, Avicenna Research Institute, ACECR, Tehran, Iran
5- Department of Anatomical Sciences, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran
* *E-mail:* shirazi1reza@yahoo.com

Abstract
Despite the basic dogma stated that most mammalian females lose the capacity of germ cell (GC) renewal and oogenesis during fetal life, it has been claimed that germ line stem cells preserve oogenesis in postnatal mouse ovaries. There is a doubt that postnatal oogenesis keeps producing functional and sufficient GCs in the case of infertility caused by many reasons. On the other hand, there are many studies showing derivation of primordial GCs and late GCs from embryonic stem cells (ESCs) in vitro. This study was aimed to clarify the role of ESC-derived GCs in oogenesis.
Mouse ESCs via embryoid body (EB) formation were differentiated into GC lineage by adding Bone Morphogenetic Protein 4 (BMP4) and Retinoic acid (RA) to the culture medium. Expression of GC markers was characterized by using reverse transcription polymerase chain reaction (RT-PCR) and immunohistochemistry. 6-10 week-old female mice, sterilized using chemical agents, were injected with ESCs-derived GCs thorough their tail veins. To track the transplanted cells, the ovaries were immunohistochemically stained after two months.
Expression of GC specific markers such as mouse vasa homologue (Mvh) and deleted in azoospermia-like (DAZL) indicated that GCs successfully were developed from ESCs. Following transplantation of ESCs-derived GCs, interestingly, there was no evidence of homing of GCs in the transplanted ovaries.
Our findings suggest no contribution of ESC-derived GCs within the sterilized mouse ovaries.

Keywords: BMP4, Embryoid body, Embryonic stem cells, Germ cell, Oogenesis, Retinoic acid.

I-48: Effects of therapeutic radiation on ovarian function

Morteza Tabatabaeifar*

* *E-mail:* tabatabaeefar@hotmail.com

Abstract
Cancer therapy including radiotherapy, can have a profound impact on ovarian function, leading to premature menopause and loss of fertility. Abdominopelvic radiotherapy has deleterious effects on ovarian function.
Acute ovarian failure can occur during or shortly after completion of irradiation and may be transient or permanent. In contrast, premature ovarian failure (POF) or premature menopause typically manifests after a post-treatment return of regular menses with subsequent loss of ovarian function before the age of 40 years.
Dividing granulosa cells (GC) appear to be the initial target for radiation injury. Within a few hours of irradiation, before any changes in the oocyte are detectable, cell death can be seen in GCs.
In acute ovarian failure (AOF) complete or nearly complete disappearance of primordial follicles can be seen.
Ultimate fertility depends on:
- the reproductive age of the patient
- corresponding ovarian reserve
size of the remaining pool of primordial follicles,
- dose and schedule of radiotherapy,
- use of a combination of treatment modalities.
Estimated sterilizing radiation dose decreases with increasing age, because the remaining oocyte population is becoming depleted with age.
The dose of radiation required to destroy 50% of primordial follicles (LD50) is 1.99 Gy.
- Ovarian doses of 150 cGy or less usually have no deleterious effects on young women
- However, an occasional woman older than 40 years will be sterilized by this dose.
- 400 rads will cause permanent amenorrhea in almost all women older than 40 years.
- A variable percentage of younger women will be rendered temporarily, or permanently, amenorrheic at doses of 250 to 800 rads.
- Acute or fractionated doses of greater than 800 rads will render virtually all women permanently sterile.
- Children show greater resistance to radiation castration than do adult women.

I-51: Immune regulators in embryo implantation

Maryam Tavakoli*

- *Reproductive Immunology Research Center, Avicenna Research Institute, ACECR, Tehran, Iran*
* *E-mail:* tavakolim77@gmail.com

Abstract
Endometrial and immune cells at the implantation site create appropriate microenvironment for successful implantation. Cytokines secreted by endometrium regulate the expression of prostaglandins, interleukin-11, leukemia inhibitory factor (LIF) and other implantation related factors. It seems that secretion of some of these factors, including vascular endothelial growth factor A (VEGFA), platelet-derived growth factor A-A, tumor necrosis factor-β, soluble interleukin-2 receptor α, fms-like tyrosine kinase receptor-3 ligand, soluble CD40L, interleukin-7, interferon-α2 and CXCL1–3 in to the uterine fluid are important in implantation. Endometrial cytokines influence embryo adhesion to endometrium. On the other hand, some study models showed that blastocyte-drived mediators could be sensed by endumetrium and poor quality embryos suppressed some implantation immune factors such as interleukin-1, interleukin-6, interleukin-10, interleukin-17, interleukin-18, eotaxin and heparin-binding epidermal growth factor. hCG secreted by preimplantation blastocyst and endometrium itself, regulates endometrial LIF and VEGF production. Trophoblast migration within the decidua could be strongly induced by endometrial chemokines, CXCL9, CXCL10 and CXCL11, CXCR3 ligands. Endometrial cytokines shift the differentiation and function of local immune cells towards trophoblast-supporting mode. Endometrial epithelial cells produce colony-stimulating factor-1, the major regulator of dendritic cells (DCs) and macrophages. DCs regulate angiogenesis by secreting soluble Fms-like tyrosine kinase 1 and induce the development of regulatory T (Treg) cells. Uterin natural killer (uNK) cells produce interleukin-8, interferon-inducible protein-10 chemokines and angiogenic factors that are critical for trophoblast invasion and decidual formation. Embryo receptivity requires a complex network of implantation related molecules secreted by endometrial and immune cells. Estrogen, progesterone and pregnancy associated hormones could be the main driver of this process.

Keywords: Cytokine, Endometrium, Implantation, Progesterone, Trophoblast, uNK.

I-52: Socio-cultural construction of infertility in Iran: A meta-synthesis

Abou Ali Vedadhir*

- *Faculty of Social Sciences, University of Tehran, Tehran 14117-13118, Iran*
* *E-mail*: vedadha@ut.ac.ir

Abstract
Infertility in sociocultural context of Iran, like many other human societies, is no longer an objective state, but belongs to a socio-culturally constructed category. It is not also a private and natural problem of couples, but heavily stigmatized and biomedicalised. Throughout last two decades, infertility has been brought within the biomedical realm and is currently defined, characterized and treated as a biomedical condition. In addition, A closer look at the process of infertility definition explicitly or implicitly suggests that there are broad social oppressions and disparities on infertility and its treatment in the country. There are considerable social variations and patterns in understanding, meaning, lived experience, narrative, occurrence and coping strategy relating to infertility and its treatment in Iran.
In sum, socio-cultural construction of infertility can be constituted and characterized in three overarching domains that each of them has implication for population policies and sexual and reproductive health programs in contemporary Iran. The domains are: cultural meanings of infertility; lived experience of infertility, and biomedically-dominant process of treatment for infertility. On the one hand, such a socio-cultural construction of infertility by some means fuels to ever-increasing biomedicalization of infertility, and on the other hand it is inherently consistent with recent pro-natalist population policies and discourses in Iran.

Keywords: Biomedicalization, Infertility, Iran, Meta-synthesis, Socio-cultural Construction, Treatment for Infertility.

I-53: Efficacy of intrauterine injection of granulocyte colony stimulating factor (G-CSF) on treatment of unexplained recurrent miscarriage

Mohammad Mehdi Akhondi, Mohammad Reza Sadeghi, fsaneh Mohammadzadeh, Atousa Karimi, Sheyda Jouhari, Soheila Ansaripour, **Simin Zafardoust***

- *Avicenna Fertility Center, Tehran, Iran*
* *E-mail:* siminzafardoost@yahoo.com

Abstract

Background: Endometrium undergoes several changes in structure and cellular composition during pregnancy. GCS-F (Granulocyte Colony-stimulating Factor) is an important cytokine with critical role in embryo implantation and pregnancy. The previous studies showed that that transvaginal endometrial perfusion with G-CSF might be helpful for improvement of implantation rate among patients with thin endometrium and repeated implantation failure (RIF). The aim of present study was to evaluate the impact of intrauterine injection of G-CSF in patients suffering from unexplained recurrent miscarriage (RM).

Methods: In the present randomized clinical trial, a total of 68 patients were randomly allocated into two study groups including intrauterine G-CSF (300 *µg*, Filgrastim, Switzerland) injection and control group (no G-CSF injection). All patients were in I/O (Ovulation Induction) cycle. In G-CSF group, intrauterine injection of G-CSF was done twice in cycle. All enrolled patients were under 40 years old and had at least two times unexplained pregnancy loss. Pregnancy was evaluated by titer of βhCG, and presence of gestational sac (implantation) was assessed by vaginal ultrasonography and finally clinical pregnancy was confirmed by detection of fetal heart rate (FHR).

Results: Eighteen out of 68 patients were excluded from the final analysis due to different reasons. No significant difference was observed between two study groups when we compared the rate of chemical pregnancy (26.1% *vs*. 29.6%, p=1.000), implantation (26.1% *vs*. 22.2%, Fisher's exact test p=0.673), clinical pregnancy (17.4% *vs*. 11.1%, Fisher's exact test p:0.657) and abortion (8.7% *vs*. 18.5% Fisher's exact test p=0.921).

Conclusion: In contrast to possible effect of G-CSF on improvement of implantation rate that revealed by some other studies, based on the result of present study we couldn't suggest intrauterine injection of G-CSF for improvement of clinical pregnancy rate and reducing abortion among patients with unexplained RM. Further molecular biology studies are needed to clarify the mechanism in which G-CSF affects the pregnancy process.

Keywords: Granulocyte colony-stimulating factor, Intrauterine injection, Recurrent miscarriage.

Oral Presentations

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Abstracts

O1: Differentiation of bone marrow mesenchymal stem cells into germ like cells by retinoic acid and condition medium from sertoli cells

Maryam Salem, Abolfazl Bayrami [1] , Tooba Mirzapour [2] , Mohsen Sagha [3]

1- Assitante Professor
2- Assitante Professor
3- Associate Professor, Ardabil University of Medical Sciences

Corresponding Author: *MARYAMSALEM1111@GMAIL.COM*

Background: Creation of artificial gametes may provide a universal solution for these patients with no gametes. Stem cell technology may provide a way to obtain fully functional gametes. Microenvironment signals play a critical role in directing the differentiation of stem cells. Sertoli cells (SCs) provide a unique microenvironment that is essential for germ cell differentiation and retinoic acid (RA) can initiate germ cells meiosis.

Methods: In this study, first mesenchymal stem cells were extracted from femur and tibia rat bone marrow aspiration and third passage cells were used. Then four groups of control group with no material inductor, induced group with condition medium from sertoli cells, induced group with 10-6 M retinoic acid and induced group with 10-6 M retinoic acid accompanied by condition medium that were cultured for 10 and 15 days were included in the study. In the end, the expression of differentiation markers was analyzed by PCR.

Result: The germ cell-specific markers including the premeiotic marker OCT4, PLZF and meiotic marker SCP3 were expressed after 10 days of differentiation in induced group with condition medium. But after 15 days of differentiation, these genes were expressed in three groups: induced group with condition medium, induced group with 10-6 M retinoic acid and induced group with 10-6 M retinoic acid accompanied by condition medium.

Conclusion: Our results showed that the effect of condition medium from sertoli cells is more than retinoic acid in the germ cells differentiation because condition medium on both days 10 and 15 led to the expression of the pre meiotic and meiotic markers.

Keywords: Germ cells, Retinoic acid, Sertoli cells, Mesenchymal stem cells

O2: The effect of rat bone marrow mesenchymal stem cells transplantation on the structure and function of mice auto grafted ovaries in gluteus superficialis muscle

Elham Shojafar [1] , Malek Soleimani Mehranjani [2] , Sayyed Mohammad Ali Shariatzadeh [3] , Monireh Mahmoodi [4]

1- Arak University, Arak, Iran
2- Professor, Faculty of Science, Arak University, Arak, Iran
3- Professor, Faculty of science, Arak University, Arak, Iran
4- Assistantprofessor, faculty of science, Arak university, Arak, Iran

Corresponding Author: *Elham Shojafar, email: elhamshojafar@gmail.com*

Background: MSCs may improve ovary transplantation through the secretion of angiogenic and anti apoptotic factors. The aim of this study was to investigate the effect of Rat Bone Marrow Mesenchymal Stem Cells (rBMSCs) transplantation on the mice ovary structure and function following auto transplantation.

Methods: NMRI mice (4-5 weeks old) were divided into three groups(n=6):control (freshly isolated ovaries), transplanted +rBMSCs (1×106 cells per 5 µl saline solution) and transplanted (5 µl saline solution).rBMSCS and saline solution were injected into the grafted ovaries at the time of transplantation. 7 days after ovarian transplantation, the starting day of estrous cycle was determined. 28 days after ovarian transplantation, the ovaries were stereologically studied and the plasma levels of estradiol and progesterone hormones were evaluated. The results were analyzed using one-way ANOVA and Tukey's test and the means were considered significantly different at P

Result: A significant reduction in the mean total volume of ovary, cortex and medulla, the number of follicles, the levels of estradiol and progesterone and the estrous cycle recovery rate was found in the transplanted group when compared to the control. However, the mentioned parameters increased significantly in the transplanted + BMSCs group compared to the transplanted group.

Conclusion: The injection of BMSCs into the grafted ovaries improve their structure and function and could be considered as a new method in the field of ovary transplantation to achieve better results.

Keywords: Estradiol , Rat bone marrow mesenchymal stem cells, Stereology, Mice, Ovary auto transplantation, Progesterone

O3: Direct Method Is Superior to Indirect for Cryopreservation of Low Number of Human Spermatozoa

Akram Hosseini [1]

1- Yazd Reproductive Sciences Institute, ShahidSadoughi University of Medical Sciences, Yazd, Iran

Corresponding Author: *Yazd Reproductive Sciences Institute, Shahid Sadoughi University of Medical Sciences, Yazd, Iran, email: hosseinia30@yahoo.com*

Background: Different methods have been introduced for cryopreservation of low number of spermatozoa in ART laboratories. Several carriers have been introduced, such as empty zonapellucida, spherical Volvoxglobator algae,cryoloops, agarose microspheres, cryolock, and ICSI pipettes. But,there is not enough evidence for confirmation of the most suitable device. The aim of this study was to evaluate the most effective method for cryopreservation of trace number of human spermatozoa.

Methods: Ejaculate samples were obtained from 20 healthy men by masturbation. In this study, we used a cryotec for low number sperm freezing. Briefly, in order to freeze, sperm freezing medium was at the same volume of the sperm samples . 2 µl of obtained suspension in each group was transferred on Cryotec . One Cryotec was frozen by exposure to liquid nitrogen vapor and the other was immersed directly into liquid nitrogen. All of samples were stored in the cryotank. For thawing, the tip of the cryotec containing sperms was quickly and directly placed in a pre-warmed droplet. Then motility, viability, DNA and chromatin integrity of vitrified-warmed sperms were assessed.

Result: Sperms recovered from direct method had better morphology, total motility and acrosome reaction than the ones in indirect method.The levels of chromatin damage in direct method were low in comparison to other frozen–thawed groups.

Conclusion: This study demonstrated that direct method can be a suitable method for cryopreservation of low number of sperm.

Keywords: DNA damage, Human spermatozoa, Motility, Cryopreservation of sperm, Viability

O4: The effect of coenzyme Q10 on activity of superoxid dismutase, glutation peroxidase and catalase of preantral follicles derived from mice vitrified ovary

Elmira Hosseinzadeh [1] , Saeed Zavareh1,2* [2] , Taghi Lashkarboluki1,2 [3]

1- School of Biology, Damghan University, Damghan, Iran
2- School of biology, Damghan University, Damghan, Iran. 2 Institute of biological sciences, Damghan University, Damghan, Iran.
3- School of biology, Damghan University, Damghan, Iran. 2Institute of biological sciences, Damghan University, Damghan, Iran.

Corresponding Author: *elmira.hosseinzadeh@yahoo.com*

Background: Induced oxidative stress by vitrification can be neutralized by using an antioxidant. The aim of this study was to investigate the effects of coenzyme Q10 (COQ10) on catalase, Superoxid Dismutase (SOD) and glutation peroxidase (GPX) activity of preantral follicle derived from vitrified and fresh mice ovaries.

Methods: Isolated pre-antral follicles from vitrified and fresh ovaries of immature female NMRI mice were cultured with or without COQ10. At the initial time, 24, 48, 72 and 96 h of cultivation period, the catalase, SOD and GPX activity were assessed. Data were statistically analyzed by ANOVA and Turkey's HSD was used as posthoc. A significance level difference was at $P < 0.05$.

Result: Activity of catalase, SOD and GPX decreased significantly during the culture period up to 96 h in both vitrified and fresh groups. However, in the presence of CoQ10 , catalase, SOD and GPX levels increased significantly compared to respective group without CoQ10.

Conclusion: CoQ10-supplemented maturation medium can increase antioxidant enzyme activity in cultured preantral follicle derived from fresh and vitrified mouse ovary.

Keywords: Mice ovaries, Oxidative stress, Vitrification, Coenzyme Q10

O5: Fertilization rate and sperm decondensation after intracytoplasmic sperm injection into human oocytes matured in vitro

Tahereh Haghpanah [1], Mohammad Salehi [2], Marefat Ghaffari Novin4 [3], Tarlan Eslami-arshaghi5 [4], Mohammadreza Afarinesh khaki6 [5], Seyyedeh Elham Hosseini7 [6]

1- Department of Anatomy, Afzalipour Faculty of Medicine, Kerman University of Medical Sciences, Kerman, Iran
2- Cellular and Molecular Biology Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran 3 Department of Biotechnolgy, School of Advanced Technologies in Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran
3- Reproductive Biology and Anatomical Sciences, Faculty of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran
4- Department of Transgenic Animal Science, Stem Cell Technology Research Center, Tehran, Iran.
5- Kerman Neuroscience Research Center, Kerman University of Medical Sciences Kerman, Iran
6- Infertility clinic, Aban Hospital, Tehran , Iran

Corresponding Author: *Cellular and Molecular Biology Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran, email: Tara_hagh2000@yahoo.com*

Background: In some of the infertile couples, we routinely use intracytoplasmic injection of morphologically normal sperm with unknown DNA fragmentation level into in virto matured (IVM) oocytes. The aim of this study was to investigate the influence of human sperm DNA fragmentation (SDF) on the rate of fertilization and sperm nuclear condensation after IVM of germinal vesicle (GV) oocytes in stimulated intracytoplasmic sperm injection (ICSI) cycles.

Methods: Following ovarian stimulation, oocyte retrieval was carried out 36-38 hours after administration of 10000 IU human chorionic gonadotrophin (hCG). GV oocytes were cultured for 24 hours in 50 ICSI cycles. Oocytes that liberated polar bodies were injected by processed semen which evaluated SDF level, as measured by the sperm chromatin dispersion (SCD) test and categorized into two groups; group I: SDF≤30% and group II: SDF >30%. 16-19 hours after ICSI, fertilization (presence of two pronuclei) was checked. IVM unfertilized oocytes were stained by Hoechst 33258 to evaluate the retained condensation of sperm head rate according to SDF. The results were statistically compared between two groups using SPSS, v. 22.

Result: Our data showed that the fertilization rate of IVM oocytes in group II (SDF>30%) (45.43±6.14) was significantly lower than that in group I (SDF≤30%) (63.88± 6.27) ($P < 0.05$). And also, patients with SDF>30% had a significantly higher number, 53%, of their unfertilized oocytes containing condensed spermatozoa, while, in SDF≤30% group, 25% of them had condensed head sperm.

Conclusion: Normal fertilization in IVM oocytes ensures high quality DNA in the paternal genome because there is a relationship between retained condensation rate and DNA fragmentation. And also, SCD is a useful method for prediction of the successful fertilization of IVM-ICSI in stimulated cycles.

Keywords: Fertilization, Germinal vesicle oocyte, ICSI, In vitro maturation, Sperm head decondensation, Sperm DNA fragmentation

O6: Addition of tempol in semen cryopreservation medium improves the post-thawed sperm function

Zahra Bateni [1]

1- Department of Reproductive Biotechnology at Reproductive Biomedicine Research Center, Royan Institute for Biotechnology, ACECR, Isfahan,

Corresponding Author: *Department of Reproductive Biotechnology at Reproductive Biomedicine Research Center, Royan Institute for Biotechnology, ACECR, Isfahan, Iran, email: z.bateni.ac@gmail.com*

Background: Despite extensive research carried out for optimization and commercialization sperm cryopreservation media, percentage of motility and viability remains low following cryopreservation. These adverse effects have been partially ascribed to reactive oxygen species (ROS) production during cryopreservation. Therefore, we proposed that addition of a cell permeable antioxidant like Tempol, with superoxide dismutase (SOD) mimetic action, may overcome these effects in an optimized commercially available cryo-protective medium.

Methods: Motility and viability of each sample for different Tempol concentrations were assessed before

and after cryopreservation using computer-aided sperm analysis (CASA) and Eosin-Nigrosin. DNA fragmentation was evaluated with the aid of the terminal dUTP nick-end labeling (TUNEL) assay kit.

Result: Therefore, semen samples were cryopreserved in the presence or absence of Tempol. A concentration of 5 mM Tempol was defined as optimal since it significantly improved motility and viability at post thawing and reduced DNA fragmented sperm. In addition, percentage of ROS positive sperm was reduced.

Conclusion: These effects of Tempol can be attributed to cell permeability characteristics and ability to reduce superoxide production both at intra- and extra-cellular levels. Tempol may hold the potential for clinical applications.

Keywords: DNA fragmentation, Motility, ROS, Tempol, Viability, Cryopreservation

O7: Epididymal sperm in vitro fertilizing ability declines following bilateral epididymal white adipose tissue lipectomy in mice

Farhad Mohammadi [1] , Ali Shalizar Jalali [2] , Gholamreza Najafi [3] , Mehdi Behfar [4]

1- Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
2- Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
3- Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
4- Department of Surgery and Diagnostic Imaging, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran

Corresponding Author: *Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran, email: yasinmohammadi1362@gmail.com*

Background: Therapeutic strategies such as chemotherapy can adversely affect gonadal fat stores. The aim of this study was to scrutinize the effects of bilateral epididymal white adipose tissue lipectomy (EWATx) on epididymal sperm fertilizing capability and following embryo development using the in vitro fertilization mouse model.

Methods: Eighteen adult male mice were allocated into three equal groups. Following anaesthesia, one group of mice received EWATx through careful removal of epididymal white adipose tissue pads without damaging the testicular blood supply or nerves. Sham surgery in control-sham mice consisted of visualization of the pads without isolation/removal. Control animals only received ceftriaxone (100 mg/kg) intraperitoneally on the day of surgical procedures in other groups. Epididymal sperm fertilizing capacity and subsequent in vitro embryo development were assessed after 35 days.

Result: EWATx resulted in significant reductions in fertilization, two-cell embryos, blastocysts and hatching rates. Moreover, incidence of embryo arrest was significantly higher following EWATx.

Conclusion: These findings raise the possibility that epididymal white adipose tissue plays critical roles in normal gonadal functioning, including spermatogenesis and androgenesis.

Keywords: Embryo development, Epididymis, Mice, Sperm, Lipectomy

O8: Comparison of embryo formation rate from vitrified mature oocytes in different times after retrieval in mice

Azade Karami [1] , Mitra Bakhtiari [2] , Mehri Azadbakht [3] , Mozafar Khazaei [4] , Rostam Ghorbani [5]

1- Department of Anatomy and Biology, Kermanshah University of Medical Sciences, Kermanshah, Iran
2- Department of Anatomy & Biology, Kermanshah University of Medical Sciences, Kermanshah, Iran.
3- Department of Biology, faculty of Sciences, Razi University, Kermanshah, Iran
4- Department of Anatomy & Biology, Kermanshah University of Medical Sciences, Kermanshah, Iran
5- Department of Anatomy & Biology, Kermanshah University of Medical Sciences, Kermanshah, Iran

Corresponding Author: *Department of Anatomy and Biology, Kermanshah University of Medical Sciences, Kermanshah, Iran, email: a.karami365@yahoo.com*

Background: Oocyte vitrification is a good way to preserve fertility in women whose ovarian function was reduced due to various reasons such as pelvic diseases, radiotherapy and chemotherapy. Incubation time after oocyte retrieval is one of the factors in oocyte vitrification. This study was designed to find the best time to incubate oocytes before freezing at 0, 6, 12, 18 and 24 hours.

Methods: MII oocytes were obtained from 6 to 8 week NMRI female mice after hormonal stimulation. The oocytes were randomly divided into 5 groups, including: vitrified immediately, 6, 12, 18 and 24 hours after retrieval and were entered to vitrification thawing process. Thawed oocytes were inseminated for in vitro fertilization. The Next day, cleavage rate and embryo quality were assessed. Results were analyzed with SPSS software and Chi- square tests.

Result: The survival and embryo formation rate significantly decreased in 12, 18 and 24 hours after retrieval compared with immediately freezing group. The percentage of A grade embryos formation significantly decreased in 6 hours group rather than immediately freezing group. No A grade embryos were obtained in groups of 12, 18 and 24 hours. The difference in percentage of B grade embryos in experimental groups was not significant with immediately freezing group. The percentage of C grade embryos significantly increased in all vitrified groups compared with immediately freezing group.

Conclusion: The survival rate of oocytes after vitrification, thawing, embryo formation rate and embryo quality decreases with increasing oocyte incubation time before freezing.

Keywords: Embryo formation rate, Incubating time, Oocyte, Vitrification

O9: Extended culture of encapsulated human blastocysts in alginate hydrogel containing decidualized endometrial stromal cells in presence of melatonin

Corresponding Author: *Reproductive Biotechnology Research Center, Avicenna Research Institute, Tehran, Iran, email: arjmand@avicenna.ac.ir*

Background: In vitro culture extension of human embryos beyond blastocyst stage provides tools to explore the molecular and physiological mechanisms of embryo development and identify factors that could serve as targets for improving pregnancy outcomes.

Methods: The present study was the first report on in vitro extended culture of human blastocyst. We co-encapsulated human embryos in alginate hydrogels with decidualized endometrial stromal cells (EnSCs) and cultivated those in melatonin-fortified culture medium. The effectiveness of the proposed 3D culture system was assessed by monitoring embryo survival time and viability, morphological changes, and production of the two hormones, 17b-oestradiol and human chorionic gonadotropin.

Result: The structural integrity of embryos was preserved during encapsulation in alginate hydrogels; however, 77% of the embryos exited from the alginate beads over time and only 22% of the encapsulated embryos survived up to 4 days post-encapsulation. The culture medium fortification with melatonin significantly elevated maintenance rate of expanded embryos in alginate bead (88%) and prolonged survival time of human embryo until day 5. Moreover, EnSCs co-culture increased the 5-days survival rate of encapsulated embryos that were cultured in presence of melatonin (up to 44%). The levels of both hormones significantly elevated on day 4 in comparison with day 2 post-encapsulation especially in groups co-encapsulated with EnSCs and cultivated in melatonin-fortified culture medium.

Conclusion: This data is the first evidence representing development of human embryos without dependence to in vivo uterine until day 10 post-fertilization. This achievement will help us to find out mechanisms that regulate human embryo development in the future.

Keywords: Co-culture, Endometrial stromal cell, Melatonin, Three-dimensional, Human blastocyst

O10: Correlation between hormonal changes and sperm chromatin integrity in infertile men

Fatemeh Ghasemian [1] , Ziba Zahiri [2]

1- Department of Biology, University of Guilan, Rasht, Iran
2- Infertility therapy Center (IVF), Alzahra Educational and Remedial Center, Guilan University of Medical Sciences, Rasht, Iran.

Corresponding Author: *Department of Biology, University of Guilan, Rasht, Iran, email: ghasemian.21@gmail.com*

Background: Since hormones both initiate and maintain spermatogenesis, they may serve as surrogates of semen quality in epidemiologic studies. For this reason, in the present study, we evaluated the influence and predictive ability of reproductive hormones on sperm chromatin integrity, and condensation among men who were partners in an infertile couple.

Methods: In this research, 219 infertile men undergoing assisted reproductive treatment were evaluated with hormone levels including follicle-stimulating hormone (FSH), luteinizing hormone (LH) and testosterone, between the years 2012 to 2014. Sperm chromatin structure and condensation were assessed with toluidine blue (TB) and aniline blue (AB) tests and the percentage of abnormal sperm chromatin structure and condensation was compared in men with different hormone levels. Statistical analysis was performed using multinomial logistic regression and P

Result: There were significant differences in abnormal sperm chromatin condensation, in men with low levels of FSH (95% CI: OR=2.1), LH (95% CI: OR=1.6), and testosterone (95% CI: OR=2.99). For sperms with damaged chromatin, there was a positive relationship between the high levels of FSH, LH and increasing percentage of damaged sperm chromatin.

Conclusion: The tests for sperm chromatin condensation showed a significant association with hormonal changes. It has also been shown that the abnormal sperm chromatin parameters could be the result of hormonal alterations in IVF-ET cycles.

Keywords: chromatin integrity, Hormonal changes, Infertile men, ART

O11: Ultrastructural and histochemical studies of ovarian follicles after nandrolone decanoate administration in adult rat

Hossein Bordbar [1] , Fakhroddin Mesbah [2] , Tahereh Talaei [3] , Farzaneh Dehghani [4] , Hossein Mirkhani [5]

1- 2291423169
2- Department of anatomical sciences, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran
3- Department of anatomical sciences, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran
4- Department of anatomical sciences, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran 2 Histomorphometry, Stereology Research Center, Shiraz University of Medical Sciences, Shiraz, Iran
5- Department of Pharmacology, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran

Corresponding Author: *Department of anatomical sciences, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran, email: bordbarh47@yahoo.com*

Background: Nandrolone decanoate (ND) is the synthetic hormones such as androgens, abused by young athletic and non-athletic men and women. The present study expected to identify the alterations on the ultrastructure and also evaluated the apoptosis of ovarian follicles imposed by the ND.

Methods: Twenty female Sprague- Dawley adult rats were randomly divided into four groups (n=5). The experimental groups were received 3 and 10 mg/kg of ND intraperitoneal (IP) injection daily for four weeks. The vehicle received the same volume of olive oil (o.1 ml). Control rats did not receive any treatment. The rats were scarified and their ovaries were prepared for transmission electron microscopy (TEM). The follicles were examined by using TUNEL (Terminal Deoxynucleotidyl-Transferase Mediated dUTP-Nick-End Labeling) for detection of DNA damage and apoptosis.

Result: Ultrastructural findings of ovarian follicles showed that the granulosa and theca cells of the experimental groups were considerably degenerated in different ovarian follicular phases. Large amount of autophagy vacuoles, chromatin margination and irregular shapes of the mitochondria were observed in the granulosa and theca cells especially in high dose in treated animals. The rates of the apoptosis increased in granulosa cells and primordial follicles in groups treated by ND.

Conclusion: The results of this study support that fine structure of the rat ovary is affected by ND. Our findings exhibited that atresia of ovarian follicles may happen by apoptotic mechanisms after ND administration.

Keywords: Apoptosis, Ovarian follicle, Ultrastructure, Nandrolone Decanoate

O12: Embryo kinetics and oocyte quality: is there a relationship?

Azita Faramarzi [1] , Mohammad Ali Khalili [2] , Mehrdad Soleimani [3] , Azam Agharahimi [4]

1- Research and Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.
2- Research and Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.
3- Research and Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.

4- Research and Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.

Corresponding Author: *Research and Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran, email: Faramarzi_90@yahoo.com*

Background: For embryologists, the task of selecting viable embryos for transfer is a key factor in the success of IVF treatments. In the past, few years time-lapse technology (TLM) has been adopted for the study of embryo development and selection. The aim was to investigate the relationship between the oocytes parameters with morphokinetic variables of embryos in clinical setting.

Methods: Morphokinetic variables of 150 embryos, including time for extrusion of 2nd polar body (tPB2), time of pronuclei appearance (tPNA), time of pronuclei fading (tPNF), time of division to 2(t2), 3(t3), 4(t4), 5(t5), 6(6t), 7(7t), 8(8t), 9(9t), 10(10t), 11(11t), 12(12t) cells, length of second cycle (CC2= t3- t2), synchrony of cell division from 2 to 4 cells (S2=t4-t3) and incidence of abnormal biological events were analyzed. Using a PolScope, the presence of spindles and ZP birefringence were assessed in MII oocytes. Also, oocytes morphometric and morphologic characteristics were assessed.

Result: Almost all cleavage and interval times were similar between high or low ZP birefringence, also in oocytes with or without meiotic spindle (p

Conclusion: Morphokinetic parameters of early embryo development were not related to the quality of MII oocytes.

Keywords: Morphology, Morphometry, Oocyte, Embryo kinetics

O13: The composition of media for human embryo culture and their stability during storage and culture

Majid Tarahomi [1] , Jan P. Van Straalen [2] , Femke A.P. Schrauwen [3] , Frédéric M. Vaz [4] , Mehdi Akhondi [5] , Sjoerd Repping [6] , Sebastiaan Mastenbroek [7]

1- Center for Reproductive Medicine, Academic Medical Center, University of Amsterdam, Amsterdam, The Netherlands & Reproductive Biotechnology Research Centre, Avicenna Research Institute, ACECR, Tehran , Iran
2- Center for Reproductive Medicine, Academic Medical Center, University of Amsterdam, Amsterdam, The Netherlands
3- Center for Reproductive Medicine, Academic Medical Center, University of Amsterdam, Amsterdam, The Netherlands
4- Center for Reproductive Medicine, Academic Medical Center, University of Amsterdam, Amsterdam, The Netherlands
5- Reproductive Biotechnology Research Centre, Avicenna Research Institute, ACECR, Tehran , Iran
6- Center for Reproductive Medicine, Academic Medical Center, University of Amsterdam, Amsterdam, The Netherlands
7- Center for Reproductive Medicine, Academic Medical Center, University of Amsterdam, Amsterdam, The Netherlands

Corresponding Author: *Majid Tarahomi, Center for Reproductive Medicine, Academic Medical Center, University of Amsterdam, Amsterdam, The Netherlands, Email: Majidtarahomi@yahoo.com*

Background: Subfertility, the failure to conceive after 12 months of unprotected intercourse, affects up to 1 in 10 couples (1, 2) . In vitro fertilization (IVF) is one of the most commonly used assisted reproductive technologies to overcome subfertility. The choice of embryo culture medium used in IVF not only affects the success rate of the IVF treatment (3), but also the health of the future child (4). Despite its importance, the exact formulations of media used for embryo culture in IVF are often not known (5). Furthermore, it is yet unknown whether the composition of these media changes during storage in the IVF laboratory or during culture.

Methods: Seventeen commercially available human embryo culture media were purchased from eight suppliers in the Netherlands. Samples of these media were collected at arrival in the laboratory, after three days of sham culture that was started after arrival, at the expiry date, and after three days of sham culture around the expiry date. In all these samples, we determined the concentration of several basic elements (Sodium, Potassium, Calcium, Chloride, Phosphate, Iron and Magnesium), metabolites (Glucose, Lactate), immunoglobulins, albumin, and 19 amino acids.

Result: The composition varied between the culture media, and in particular differences were found for the analyzed metabolites, albumin, and amino acids. Storage in the IVF laboratory before use did not seem to affect the studied components, except for the amino acids. Similarly, after three days of sham culture, the media seemed stable, except for the concentration of amino acids.

Conclusion: There is clear variation in the composition of human embryo culture media. There is

only a limited effect of storage and sham culture on the studied components.

Keywords: Human preimplantation embryo, In vitro fertilization, Culture media

O14: Comparison of different in vitro maturation media for immature oocytes obtained from stimulated ICSI cycles

Farzaneh Fesahat [1] , Azita Farzamarzi [2] , Razieh Dehghani Firouzabadi [3] , Iman Halvaei [4] , Mohammad Ali Khalili [5]

1- Research and Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran
2- Research and Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran
3- Research and Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran
4- Research and Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran
5- Research and Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran

Corresponding Author: *Research and Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran Email: khalili59@hotmail.com*

Background: Optimization of in vitro maturation (IVM) media for better outcome has been matter of interest in recent years. The aim was to investigate the effect of different media on IVM outcome.

Methods: In this experimental study, immature oocytes (GV/MI) with normal morphology were retrieved from stimulated ICSI cycles. They were divided into four groups including homemade IVM medium (group I), cleavage medium (group II) , blastocyst medium (group III) and Sage IVM medium (group IV) cultured for 24 to 48 hr at 37°C in 5% O2, 5% CO2 and 90% air with high humidity. ICSI was performed for in vitro matured oocytes after 24 and 48 hr in order to compare the rates of fertilization, embryo formation, good quality embryo and embryo arrest between four groups.

Result: From 427 GV and 114 M1 oocytes, total maturation rate of GV oocytes showed significant difference in groups I-IV (55.5% , 53.5%, 78.4 % and 64.6 %, respectively, p =0.000). However, total maturation rate of MI oocytes showed no significant difference between groups. There were no significant differences on fertilization rates, embryo formation or arrest rates of MII oocytes from both GV and MI groups. The rate of good quality embryos was higher in group IV in comparison with other groups (p= 0.01).

Conclusion: Our results showed that blastocyst medium improved the maturation rates of GV oocytes while the embryo quality showed significant increased following application of Sage IVM media. It seems culture media could affect IVM outcomes.

Keywords: Culture media, Embryonic development, ICSI, In vitro oocyte maturation

O15: Evaluation of the effect of naloxone on polycystic ovary syndrome

Fatemeh Lakzaei [1] , Manizheh Karami [2] , Fatemeh Hassani [3]

1- Department of Biology, Faculty of Basic Sciences, Shahed University, Tehran, Iran
2- Dept of Biology, Faculty of Basic Sciences, Shahed University
3- Graduated student, Dept of Biology, Faculty of Basic Sciences, Shahed University

Corresponding Author: *lakzaei.fateme@yahoo.com*

Background: Polycystic ovary syndrome (PCOS) can be induced in rats by over production of nitric oxide (NO). This study evaluated the efficacy of naloxone on the breeding characteristics of rats suffering from NO induced PCOS.

Methods: 24 female Wistar rats (200–250 gm) were kept as virgin under standard conditions.One group received L-arginine (50 mg/kg) intraperitoneally (i.p.) for 9 days/once a day. Another group received naloxone hydrochloride (0.4 mg/kg, i.p.) prior to injection of L-arginine. The third group was injected solely by naloxone. Control group received saline solution (1 ml/kg, i.p.). All female rats were coupled with the intact males, then separated by observation of vaginal plaques; it was considered as day 0 of pregnancy. Eventually, they were operated on days 18 to 19 of the gestation to collect the animals' ovaries.The fetal number was measured. The uteri diameters were calculated in all groups.

Result: The ovaries obtained from the L-arginine treated group had large cysts with thickened granulosa cell layer in contrast to those of the control or naloxone treated rats. The group that only had L-arginine showed low fetal count in comparison to control. However, naloxone pre-treatment caused significant raise in the rates. The uteri diameters of rats treated with L-arginine showed a significant increase when compared with the control group .

Conclusion: This study may illustrate the polycystic characteristics in the L-arginine treated group and the breeding efficacy of naloxone in rats with PCOS.

Keywords: L-Arginine, Naloxone, Breeding

O16: Association between human papilloma viruses (HPV) and ovarian endometriosis lesions

Mitra Heidarpour [1] , Maryam Derakhshan [2] , Majid Kheirollahi [3] , Sepideh Dashti [4] , Marzieh Derakhshan-Horeh [5]

1- Department of Pathology, Isfahan University of Medical Sciences, Isfahan, Iran
2- Resident of pathology, Department of pathology,Isfahan university of medical sciences, Isfahan, Iran
3- Assistant professor of genecs, Pediatric inherited diseases research center &medical genecs department,Isfahan university of medical sciences, Isfahan, Iran
4- MSc student of medical genecs, Pediatric inherited diseases research center &medical genecs department,Isfahan university of medical sciences, Isfahan, Iran
5- PhD student of reproductive biology,Department of Anatomy, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran.

Corresponding Author: *Department of Pathology, Isfahan University of Medical Sciences, Isfahan, Iran, email: mh_derakhshan@yahoo.com*

Background: The exact pathogenesis of endometriosis has not been defined clearly. Understanding the pathogenesis of the disease could help to choose appropriate treatment approaches as well as preventative strategies. The infectious origin of endometriosis developed recently and there were not many studies in this field. Furthermore, during the last decades, the role of HPV infection has been explained in the pathogenesis of many malignant and non-malignant diseases. In this study, we aimed to detect HPV DNA in ovaries with and without endometriosis.

Methods: In this cross-sectional study, formalin fixed and paraffin embedded tissues of 50 ovaries with endometriosis and 49 ovaries without endometriosis were evaluated for the presence of high risk HPV using polymerase chain reaction (PCR) technique. The prevalence of HPV infection and other related characteristics of studied population were compared.

Result: High risk HPV infection was detected in 13 (26%) and 5 (10.2%) cases of the sample with and without endometriosis, respectively (P=0.041, $\chi 2$ = 3.16). Mean of age and parity was not significantly different in subjects with and without HPV infection in both studied groups (P=0.7 and P=0.06 for age in case and control groups, respectively, and P=0.32 and P=0.09 for parity in case and control groups, respectively).

Conclusion: The results of our study indicated a higher rate of high risk HPV infection among patients with endometriosis. The findings could help us to understand the pathogenesis of endometriosis and the role of viral infections and their impact on cancer development in endometriosis patients.

Keywords: Endometriosis, Human papilloma viruses, Pathogenesis

O17: The role of Apolipoprotein A1 in endometrium of PCOS women

Fatemeh Sadat Amjadi [1], Reza Aflatoonian [2], Shaghayegh Haghjoo Javanmard [3], Bita Saifi [4], Mahnaz Ashrafi [5], Mehdi Mehdizadeh [6]

1- Department of Anatomy, School of Medicine, Iran University of Medical Sciences, Tehran, Iran
2- Department of Endocrinology and Female Infertility at Reproductive Biomedicine Research Center Royan Institute for Reproductive Biomedicine, ACECR Tehran, Iran.
3- Applied Physiology Research Center, Department of Physiology, School of medicine, Isfahan university of medical science, Isfahan, Iran
4- Anatomy Department, Mashhad Medical Branch, Islamic Azad University, Mashhad, Iran
5- Obstetrics and Gynecology Department, School of Medicine, Iran University of Medical Science, Tehran, Iran
6- Cellular and Molecular Research Center, Faculty of Advanced Technologies in Medicine, Department of Anatomical Sciences, Iran University of Medical Sciences, Tehran, Iran

Corresponding Author: *Cellular and Molecular Research Center, Faculty of Advanced Technologies in Medicine, Department of Anatomical Sciences, Iran University of Medical Sciences, Teharn, Iran, email: amjadi.bh@gmail.com*

Background: Women with polycystic ovary syndrome (PCOS) have lower pregnancy rates, possibly due to the decreased uterine receptivity. Successful implantation depends on protein networks that are essential for cross-talk between the embryo and endometrium. Recently, Apolipoprotein A1(ApoA1) has been proposed as a putative anti-implantation factor.

Methods: In this study, endometrial expression of ApoA1 at the mRNA and protein level was evaluated by quantitative real-time PCR and Western blot, respectively. Samples were obtained from 10 PCOS patients and 15 healthy fertile women in the proliferative (on day 2 or 3 before ovulation, n = 7) and secretory (on day 3–5 after ovulation, n =8) phases.

Result: We found that the endometrial ApoA1 expression was upregulated in patients with PCOS compared to normal cases. Our data also revealed ApoA1 level in the human endometrium significantly changes during the menstrual cycle with minimum expression in the secretory phase, coincident with the receptive phase (window of implantation).

Conclusion: We suggest that differentially expressed ApoA1 could negatively affect endometrial receptivity in patients with PCOS. Further studies are required to clarify the clinical application of this protein.

Keywords: Endometrium, PCOS, Proliferative phase, Secretory phase, Apo A1

O18: High soluble CD44 concentration in the serum, peritoneal fluid and endometrial fluid in endometriosis

Azar Pazhohan [1], Aligoli Sobhani [2], Mahshad Khodarahmin [3]

1- Faculty of Medicine, Department of Anatomy, Tehran University of Medical Sciences, Tehran, Iran
2- Faculty of Medicine, Department of Anatomy, Tehran University of Medical Sciences, Tehran, Iran
3- Faculty of Medicine, Department of Anatomy, Tehran University of Medical Sciences, Tehran, Iran

Corresponding Author: *Faculty of Medicine, Department of Anatomy, Tehran University of Medical Sciences, Tehran, Iran, email: azarpaghohan@gmail.com*

Background: CD44 is the major cell-surface receptor for hyaluronan, which is involved in cell-cell and cell-matrix interaction and cell migration. Shedding of CD44 from the cell surface necessitates CD44-dependent migration, a process which is mediated by matrix metalloproteinases that is disturbed in endometriosis. The aim of this study was to determine the levels of soluble CD44 (sCD44) in the serum, peritoneal fluid (PF) and endometrial fluid (EF) samples of patients with endometriosis stage III/IV.

Methods: A total of 53 serum, PF and EF samples from women of reproductive age with (n=28) and without (n=25) endometriosis were obtained in mid luteal phase of menstrual cycle. The concentration of sCD44 was analyzed by Enzyme-linked immunosorbent assay.

Result: The mean concentration of sCD44 in serum, PF and EF of women with endometriosis was significantly higher than those in women without endometriosis. The EF levels of sCD-44 in women with endometriosis was 489± 61.90 ng/ml as compared to 298 ± 50.79 ng/ml in controls (p

Conclusion: According to the findings of this study, CD44 has a role in the pathogenesis of endometriosis. Although most human cells express CD44, probably the main source of sCD44 in PF is endometrial cells expressing CD44 transported into peritoneal cavity via retrograde menstruation.

Keywords: Endometrial fluid, Endometriosis, Peritoneal fluid, Serum, Soluble CD44

O19: Analysis of polymorphisms FSHR (rs6165-rs6166), ESR1 (rs2234693-rs9340799) and ESR2 (rs1256049-rs4986938) in infertile women under 35 years old who received ART treatment with OHSS and without OHSS

Fatemeh Mohajerani [1] , Sayyed Mohammad Hosein Ghaderian [2] , Babak Ramezan Aghaei [3] , Majid Mossahebi [4] , Pegah Ghoraeian [5] , Robabeh Taheripanah [6]

1- Advanced Science and Technology Faculty,Tehran Medical Branch,Islamic Azad University,Tehran,Iran
2- Medical Genetics Department School of Medicine Shahid Beheshti University of Medical Sciences,Tehran,Iran
3- D.M.T,School of allied medical sciences,shahid beheshti university of medical sciences, Tehran,Iran
4- Phd,Mohammadi department of hematology and blood banking,faculty of medical sciences,tabiat modares university,Teharan,Iran
5- Minimally invasive Techniques research center of tehran medical sciences branch,Islamic Azad University,Tehran,Iran
6- Infertility and Reproductive Health Research Center Shahid Beheshti University of Medical Sciences, Tehran, Iran

Corresponding Author: *Dr S M H Ghaderian, 8 floor, Medical Genetics Department School of Medicine, Shahid Beheshti University of Medical Sciences, Velenjak Bolvd. Kodakyar , Tehran, Iran, email: parastoo.mohajer39@yahoo.com*

Background: Infertility is a rising problem that may occur during the life time of everybody. According to its importance , many clinical treatments were established to solve the problem. In vitro fertilization (IVF), is an effective treatment for infertility .As many other medical procedures,IVF may leads to some disorders and side effects.The most important complication that may occur during IVF, is excessive response and overreaction of ovaries to medicines like gonadotropins used through treatment called ovarian hyper stimulation syndrome(OHSS). It is obvious that prediction of patient responses to gonadotropins and other used medicines, before and through IVF,will have great benefits and may prevent OHSS complications in IVF treatment. Recently, Many researches and studies have been performed on the above mentioned item . Among them ,we chose studying on some polymorphisms in FSH and Estrogen receptors coding Genes that seem to be effective factors for regulation and good performance of respective hormones.in this study we searched a possible association between coding polymorphisms of the FSHR (rs6164 , rs6166) , ESR1 (rs2234693 , rs9340799) , ESR2 (rs1256049 , rs4986938) and occurrence of iatrogenic OHSS in women under 35 years undergoing ART(Assisted reproductive technology) programs.

Methods: We selected and studied 100 Iranian females who developed OHSS after an IVF cycle in Laleh and Erfan hospitals in Tehran as case group and 100 Iranian female patients who were treated by IVF method but never developed OHSS as control group. First ,DNA was extracted from a 5-ml EDTA blood sample using standard procedures.Then, genotyping of FSHR,ESR1 and ESR2 polymorphisms was performed using TaqMan methodology by Real-time PCR. The genotypes of 20 case and control groups were confirmed by DNA sanger sequencing.

Result: No statistically significant difference was found between polymorphisms of coding regions of FSHR (rs6165, rs6166), ESR1 (rs9340799) and ESR2 (rs4986938, rs1256049) in control and patient groups. In rs2234693 polymorphism of ESR1 gene with heterozygote CT genotype, there was a statistically significant difference between patient and control groups (P=0.041). In this study, we also measured the level of FSH, LH and AMH in control and patient groups. We observed that the women in patient group had higher serum levels in rs6166 polymorphism of FSHR gene with mutant genotype (GG), and elevated levels of serum FSH had a statistically significant difference in comparison with control group (P=0.04).

Conclusion: According to the results of this study, there was no statistically significant difference between ESR1(rs9340799), ESR2, FSHR polymorphisms and occurrence of OHSS. In the women of patient group, carrying CT genotype in

polymorphism rs2234693 of ESR1 gene, statistically significant difference between patient and control groups confirmed that occurrence of this polymorphism can be a reason for OHSS in women undergoing IVF. The women in patient group had higher levels of LH and AMH in comparison with the control group. The women carrying mutant genotype (GG) in rs 6166 polymorphism of FSHR gene that may suggest more control should be considered in prescription of Exogenic FSH. In Iranian women undergoing IVF in this study, no mutant genotype(GG) in rs1256049 ESR2 gene was observed.

Keywords: Assisted reproductive technology, FSHR, ESR1, ESR2, Ovarian hyper stimulation syndrome

O20: Untargeted metabolomic profiling of seminal plasma of non-obstructive azoospermia patients

Mehdi Amini, Kambiz Gilany [1]

2- First author

Corresponding Author: *Reproductive Biotechnology Research Center, Avicenna Research Institute, ACECR, Tehran, Iran, email: M.Amini@avicenna.ac.ir*

Background: Approximately, 6-10% of infertile men do not have ejaculated sperm due to testicular malfunction, a condition named non-obstructive azoospermia (NOA).This work presents the untargeted metabolomic profiling of the seminal plasma of non-obstructive azoospermia (NOA) men using the gas chromatography-mass spectrometry (GC-MS).

Methods: The seminal plasma of a total of 30 samples including 11 NOA men with TESE-negative (AZN), 9 NOA men with TESE-positive (AZP) and 10 fertile (F) healthy men (as control group) were collected. Each sample was analyzed in triplicate. Advanced chemometrics methods have been used for analyzing the data. Quadratic discriminate analysis technique was implemented on data for identification of discriminatory retention times in total ion chromatograms (TICs). Multivariate classification models were developed using the QDA technique.

Result: The results revealed that the developed QDA models in this work were able to predict the classes of samples using only their TIC data. The areas under curve of the receiver operating characteristic curves for these models were more than 0.88 and it implies the predictive power of the developed models in this work for non-invasive diagnosis of NOA men.Finally, thirty six discriminatory metabolites have been identified. These metabolites are discriminatory biomarkers for different groups studied in the current work.

Conclusion: These suggested metabolites open a new window in interpretation of the reasons behind NOA disease and help in designing and developing ways for molecular treatment of NOA.

Keywords: Chemometrics, GC-MS, Multivariate curve resolution, Untargeted metabolomic profiling, Male infertility

O21: The effect of folate and folate plus zinc supplementation on endocrine parameters and sperm characteristics in sub fertile men: a systematic review and meta-analysis

Morvarid Irani [1], Ramin Sadeghi [2], Robab Latifnejad Roudsari [3], Malihe Amirian [4]

1- Student Research Committee, Department of Midwifery, School of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran
2- Nuclear Medicine Research Center, Mashhad University of Medical Sciences, Mashhad, Iran
3- Evidence-Based Care Research Centre, Department of Midwifery, School of Nursing and Midwifery, MashhadUniversity of Medical Sciences, Mashhad, Iran
4- Associate Professor in Obstetrics and Gynecology, school of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran

Corresponding Author: *Morvarid Irani, Student Research Committee, Department of Midwifery, School of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran, email: irani.morvarid@gmail.com*

Background: The effect of folate and folate plus zinc on male infertility has been comprehensively assessed in several RCT studies and showed a range from no beneficial to significant effect. The aim of this systematic review and meta-analysis was to assess the effect of folate and folate plus zinc on endocrine parameters and sperm characteristics in sub fertile men.

Methods: MEDLINE (1966 to July 2015) and Scopus (1990 to July 2015) were searched for published randomized controlled trials (RCTs). All available randomized controlled trials (RCTs), conducted on a sample of subfertile men with semen analyses, who

took oral folic acid as the mono-preparation or in combination with zinc solfate, were included in the review. Main outcome measures consisted of endocrine parameters (inhibin B, FSH and testosterone) and sperm characteristics (concentration, morphology and motility). Relevant studies were reviewed by two independent reviewers. Out of 548 relevant published trials, 7 RCTs met the inclusion criteria. Finally, 6 trails had sufficient data for meta-analysis. All statistical analyses were done by Comprehensive Meta-analysis Version 2 (Biostat, Englewood, NJ, USA).

Result: The effect of folate on the sperm concentration was statistically higher than the placebo ($p < 0.001$). However, folate supplementation does not seem to be effective more than placebo on the morphology (P= 0.056) and motility of the sperm (P= 0.652).Folate plus Zinc supplementation did not show any statistically different effect on serum testosterone (P)_= 0.86), inhibine B (P = 0.84), FSH (P = 0.054) , and sperm motility (P= 0.169) as compared to the placebo. But, zinc plus folate showed statistically higher effect on the sperm concentration (p

Conclusion: Folate plus zinc supplementation had a positive effect of sperm concentration, morphology, and serum folate level in subfertile men. Our analysis, however, did not show any statistically different effect on serum testosterone, inhibine B, FSH, and sperm motility. It should be considered that the interpretation of results of the current study is limited due to large heterogeneity among included studies. Further trials are still needed to confirm the current findings.

Keywords: Infertility, Zinc sulfate, Folic acid , Men, Folate

O22: The effect of Exenatide, a glucagon like peptide 1, on sex hormones abnormalities in rats with poly cystic ovarian syndrome

Mahin Izadi [1] , Asma Vatankhah [2] , Mohammad Ebrahim Rezvani [3] , Mansour Esmailidehaj [4] , Sima Vatankhah [5] , Negin Asadi [6]

1- Department of Physiology, School of Medical Sciences, Shahid Sadoughi University of Medical Sciences, Yazd, Iran
2- Department of physiology, School of medical sciences, ShahidSadoughi University of Medical Sciences, Yazd, Iran.
3- Department of physiology, School of medical sciences, ShahidSadoughi University of Medical Sciences, Yazd, Iran.
4- Department of physiology, School of medical sciences, ShahidSadoughi University of Medical Sciences, Yazd, Iran.
5- Department of physiology, School of medical sciences, ShahidSadoughi University of Medical Sciences, Yazd, Iran.
6- Department of physiology, School of medical sciences, ShahidSadoughi University of Medical Sciences, Yazd, Iran.

Corresponding Author: *Asma Vatankhah, Department of Physiology, School of Medical Sciences, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.A.VATANKHAH88@GMAIL.COM*

Background: Polycystic ovary syndrome (PCOS) is a complex endocrine and metabolic disorder associated with ovulatory dysfunction. Metabolic syndrome and PCOS consequences usually occur concurrently. The aim of this study was to investigate the effects of exenatide on the sex hormones abnormalities in PCO rats.

Methods: Twenty eight normal cyclicity female wistar rats weighing 175-200 g were used in this study. PCOS was induced through the injection of 4 mg estradiol valerate. PCO rats were treated by different doses of exenatide (25, 50 mg/kg). All gonadotropin hormones were evaluated using ELISA method.

Result: The result of study showed that exenatide at different doses reduced the LH to FSH ratio, as an index of PCO hormonal disturbances was decreased after exenatide treatment in rats (p

Conclusion: Consumption of nicotinic acid as a supplementary improves the severs weight gain and disturbance in the serum gonadotropin and sex hormone levels in PCO rats.

Keywords: Exenatide, Follicle stimulating hormone, Leutinising hormone, Rat, Sex hormones, Polycystic ovary

O23: Doxycycline diminishes unilateral testicular ischemia-reperfusion-induced impairment of epididymal sperm fertilizing capability in mice

Mehdi Shahkarimi [1] , Ali Shalizar Jalali [2] , Mehdi Behfar [3] , Gholamreza Najafi [4]

1- Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
2- Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
3- Department of Surgery and Diagnostic Imaging, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
4- Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran

Corresponding Author: *Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran, email: ali_shalizar@yahoo.com*

Background: The main pathophysiological mechanisms underlying bilateral testicular injuries following torsion-detorsion have been shown to be related to ischemia-reperfusion. The purpose of this study was to examine the therapeutic benefits of doxycycline (DC) in improvement of epididymal sperm fertilizing ability impairment following experimental unilateral testicular ischemia-reperfusion (IR) in mice.

Methods: Adult male mice were distributed into four groups (n=6, each). Following anaesthesia, IR was induced by clamping left testicular vessels with an atraumatic microvascular clamp for 30 minutes in IR group. In IR+DC group, in addition, mice received DC (2.5 mg/kg per day) intraperitoneally for 3 days starting from the day of induction of experimental IR. Vehicle-treated control group and DC-only treated group were also included. Ipsilateral and contralateral epididymal sperm fertilizing potentials were assessed in four groups after 35 days.

Result: IR resulted in significant reductions in fertilization and embryo development rates compared to the control and DC groups. DC administration noticeably lessened IR-induced negative changes in epididymal sperm fertilizing capacity and subsequent embryo development.

Conclusion: These findings provide novel evidence that DC has repressive role in long-term reproductive incapabilities following IR.

Keywords: Doxycycline, In vitro fertilization, Mice, Sperm, Ischemia-reperfusion

O24: Seminal oxidative status and sperm parameters in smoking and non-smoking men

Masum Karampoor [1]

1- Mehran Dorostghoal 2, Hamid Galehdari 3 and Masoud Hamadi 4*

Corresponding Author: *Department of Biology, Faculty of Science, Shahid Chamran University of Ahvaz, Ahvaz, Iran. mdorostghoal@gmail.com*

Background: It has been suggested that cigarette smoking adversely affects reproductive health and it is considered as a risk factor for male infertility. The aim of the present study was to evaluate the effects of cigarette smoking on seminal oxidative parameters and sperm quality.

Methods: The present study was approved by the institutional review board of Biology Department, Shahid Chamran University of Ahvaz. Semen samples from 45 non-smokers and 45 male smokers were obtained and seminal levels of malondialdehyde (MDA), superoxide dismutase (SOD) and glutathione peroxidase (GPx) were assessed and conventional seminal parameters such as sperm concentration, motility and normal morphology were analyzed according to the World Health Organization (WHO) guidelines.

Result: No significant differences were seen in sperm concentration and percentage of sperm with normal morphology between male smokers and non-smokers . Significant decline (p

Conclusion: Our results demonstrated higher levels of seminal lipid peroxidation in male smokers than non-smoker and showed a negative effect of cigarette smoking on sperm motility.

Keywords: Lipid peroxidation, Male infertility, Oxidative stress, Sperm parameters, Smoking

O25: Evidence for alteration in serum concentrations of leptin in infertile men categorized based on BMI

Nahid Einollahi [1] , Solaleh Emamgholipour [2] , Mohammad Ali Sadighi Gilani [3]

1- Department of Medical Laboratory Sciences, Faculty of Para-Medicine, Tehran University of Medical Sciences,Tehran,Iran
2- Department of Clinical Biochemistry, Faculty of Medicine, Tehran University of Medical Sciences, Tehran, Iran
3- Department of Urology, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran

Corresponding Author: *Department of Medical Laboratory Sciences, Faculty of Para- Medicine, Tehran University of Medical Sciences, Tehran, Iran, email: smgh62@gmail.com*

Background: The aim of this study was to compare serum and seminal level of leptin in the context of infertility in men according to BMI. We also

investigated the possible correlation of circulating level of leptin with fertility indices.

Methods: This case-control study was conducted on 193 men who consecutively attended a referral outpatient infertility clinic of Shariati Hospital.The leptin level in serum and seminal plasma was quantified by enzyme-linked immunosorbent assay (ELISA) in fertile men (n=95) and infertile men (n=98). All participants were age-and BMI-matched . Semen was also analyzed in term of volume, sperm concentration (106/mL), motility(%) and morphology in all subjects prior to study. Based on body mass index (BMI) value, all participants were divided into three groups; lean , body mass index (BMI) 19-24.99kg/m2 , overweight , BMI 25-29.99 kg/ m2, and obese BMI >30 kg/ m2.

Result: Fertile and infertile men were significantly compatible regarding sperm concentration, however,we found no significant difference in case of the leptin level in serum and semen between two studied group (p-value= 0.5 and p-value =0.1, respectively). In infertile group and in fertile men, leptin level was significantly correlated with BMI (r=-0.285; p=0.004 for infertile group ; r=-0.291; p=0.004 for fertile group). Moreover, there was an inverse correlation between serum leptin level and sperm motility (r=-0.241; p=0.014) in infertile men. Interestingly, among infertile group, we observed an augmented serum level of leptin in obese men in comparison with lean (p=0.009) and overweight(p=0.07) individuals.

Conclusion: Our findings along with other studies support this concept that increased BMI is of the clinical relevance in the context of fertility in men since our data revealed an inverse correlation between seminal leptin level and BMI in infertile men. Specifically, alteration in serum level of leptin was obviously different in infertile men in setting the terms of overweight and obesity . However, more studies are required to unravel obscure issues in this regard.

Keywords: BMI, Infertility, Leptin, Obesity

O26: Polymorphism of MnSOD (Val16Ala) gene in blighted ovum

Asiye Moshtaghi

Corresponding Author: *No. 4, Farvardin st, Pastour Sq, Tehran, Iran, email: mo_asiye@yahoo.com*

Background: Blighted ovum or anembryonic pregnancy (empty pregnancy) is the most common reason of abortion in first three months of pregnancy. Manganese Superoxide Dismutase (MnSOD) is among the most important anti-oxidants of human immune system. It is located on 6q25 chromosome but, acts on mitochondrial matrix. About 90% of produced ROS in human cells are removed by MnSOD. In case of mutation or inactivity of this enzyme, mitochondrial and nuclear DNA will severely be destructed. The most common polymorphism of its gene is Val16Ala. The purpose of current study was investigating a possible mutation in women who had to abort during first two months of pregnancy because of blighted ovum.

Methods: In a case-control study, 34 patients and 34 healthy subjects were entered. Genome DNA was sampled from saliva and its genotype was determined using Tetra Primer ARMS-PCR technique. Statistical analyses were carried out by Madcalc (Version 12/1) software.

Result: Respective frequency of TT, CT and CC genotypes were 47%, 50% and 3% in patients and 22%, 17% and 61% in control group. Statistical analysis revealed a significant relationship between Val16Ala polymorphism of MnSOD gene and blighted ovum (P = 0.0001). Moreover, there was significant relationship between allelic frequency in patients (C=27 and T=73) and control group (C=71 and T=29). (P=0.003, 95% CI = 0.0018, OR = 0.0168).

Conclusion: Based on the results obtained from our experiments, it is concluded that a significant relationship exists between Val16Ala polymorphism of MnSOD gene and blighted ovum.

Keywords: Blighted ovum, RFLP, Polymorphism

O27: Expression of AMP-activated kinase, AMPK, and its role in human spermatozoa functions

Maryam Shabani Nashtaei [1], Mohammad Ali Sedighi Gilani [2], Saeid Nekoonam [3], Mohammad Naji [4], Fardin Amidi [5]

1- Department of Anatomy, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran.
2- Department of Urology, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran.
3- Department of Anatomy, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran.
4- Department of Anatomy, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran.
5- Department of Anatomy, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran.

Corresponding Author: *Fardin Amidi, Famidi@sina.tums.ac.ir Department of Anatomy, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran*

Background: The main functions of spermatozoa required for fertilization are dependent on the energy status and metabolism. AMPK (AMP activated kinase), is a cell energy sensor and regulator of cell metabolism. Since AMPK has not yet been investigated in human spermatozoa, our aim was thus to investigate the expression of AMPK protein, its intracellular localization, and its possible role in regulating motility, viability, and level of intracellular reactive oxygen species (ROS).

Methods: Spermatozoa from 22 normozoospermic men were incubated in the presence or absence of different concentrations of AMPK inhibitor, compound C (CC) (1, 10, and 30 µM; time: 30 minutes and 1 hour). AMPK expression and its intracellular localization were investigated by western blotting and immunofluorescence, respectively. Sperm motility and viability were also assessed according to World Health Organization. Additionally, flow cytometry was used to evaluate the level of ROS. Statistical analysis was performed using SPSS (version 22) statistical package.

Result: AMPK is expressed in human spermatozoa and is mainly localized at the post-acrosomal region and in the mid-piece as well as in the entire flagellum. We confirmed that CC effectively blocks AMPK phosphorylation. CC treatment caused a significant reduction of any spermatozoa motility parameter and increase of ROS production in a time-dependent manner while sperm viability was not negatively affected by CC.

Conclusion: Our study suggests that AMPK plays a key role in the regulation of human sperm functions,

motility and production of ROS, which are essential for their ultimate role of fertilization.

Keywords: AMPK, Intracellular ROS, Motility, Viability, Human spermatozoa

O28: Effect of reperfusion on alterations in Hsp70-2, bcl2, p53 and caspase III proteins in spermatogenesis cell lineage following torsion induction in rat

Naeimeh Shamsi-Gamichi [1] , Mazdak Razi [2] , Mehdi Behfar [3]

1- Department of Comparative Histology and Embryology, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
2- Department of Comparative Histology and Embryology, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
3- Department of Clinical Science, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran

Corresponding Author: *Department of Comparative Histology and Embryology, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran, email: mazdak.razi@gmail.com*

Background: Current study was designed in order to analyze the effect of reperfusion on torsion-induced alteration in testes.

Methods: Mature Wistar rats were divided into 9 groups including, control, 1 hr (T1), 2 hrs (T2), 4 hrs (T4), 8 hrs (T8) torsion-induced, 1 hr reperfusion-induced (R1), 2 hrs (R2), 4 hrs (R4) and 8 hrs (R8) reperfusion-induced. Following torsion and reperfusion, tissue total antioxidant capacity (TAC), malondialdehyde (MDA), Glutathione peroxidase (GSH-px) activity, mRNA and protein expressions of Bcl-2, p53, Caspase-III, Hsp70 and mRNA damage were assessed.

Result: The TAC level was increased significantly in reperfusion-induced groups. The animals in reperfusion-induced groups exhibited a significant enhancement in MDA content versus torsion alone-induced groups. GSH-px activity was decreased in R1 and R2 groups and increased in R4 and R8 groups. No Bcl-2 mRNA was revealed in T1, R1, T2 and R2 groups. Protein expression of Bcl-2 was increased in R1 group while decreased in other test groups. Expression of p53 was increased in all test groups, which was more pronounced in T4 and T8 groups. The mRNA and protein levels of Caspase-III were increased in T1, T2 and T4 groups. A significant up-regulation of Hsp70 was revealed in T1 and R1 groups, which was significantly decreased in T2, R2, T4, R4 and T8 groups. Hsp70-positive cells distribution was reduced in all reperfusion-induced groups. The mRNA damage was increased significantly in all test groups.

Conclusion: Although reperfusion decreases the torsion-induced biochemical derangements, the ischemia/reperfusion injuries provoke the damages. Progressive oxidative stress following reperfusion could be considered responsible for provoking damages.

Keywords: Bcl-2, Caspase-III, Hsp70, p53, Reperfusion, Testicular torsion

O29: Mutation analysis of STAG3 gene and Y chromosome microdeletions screening in Iranian azoospermic men

Sara Pouriamanesh [1] , Zeeba Kamaliyan [2] , Mona AminBeidokhti [3] , Reza Mirfakhraie [4]

1- Shahid Beheshti University of Medical Sciences, Tehran, Iran
2- Shahid Beheshti University of Medical Sciences, Tehran, Iran.
3- Shahid Beheshti University of Medical Sciences, Tehran, Iran.
4- Shahid Beheshti University of Medical Sciences, Tehran, Iran.

Corresponding Author: *Sara Pouriamanesh, Shahid Beheshti University of Medical Sciences, Tehran, Iran, email: spouriamanesh@yahoo.com*

Background: Azoospermia is defined as complete absence of sperm from ejaculate and approximately occurs in 10-15 percent of infertile men with abnormal semen analysis. Genetic factors including microdeletions in the Y chromosome and single gene mutations contribute to nonobstructive azoospermia. Recently, genome-wide association studies have identified the STAG3 gene as a strong candidate gene for human male infertility. The aim of this study was to investigate the incidence of AZF deletions and mutation analysis of the Stag3 gene among Iranian infertile men with idiopathic nonobstructive azoospermia.

Methods: A total of 122 Iranian azoospermic infertile men were selected. The presence of 11 sequence tagged site (STS) markers from AZF region including sY81, sY84 and sY86 for AZFa; sY121, sY124, sY127 and sY134 for AZFb; and sY242, sY239, sY254 and sY255 for AZFc were investigated using multiplex

polymerase chain reaction (MPCR). Existence of possible mutations in exon 7 of Stag3 gene was also investigated using multitemperature single strand conformation polymorphism (MSSCP) method. One hundred fertile men were also studied as control group.

Result: Thirteen (10.66%) patients showed Y chromosome microdeletions and among these, deletion in AZFc region was the most frequent. However, no mutation was detected in the Stag domain coded by exon 7 of the STAG3 gene.

Conclusion: According to the results, in the studied population, the main causing factor in developing azoospermia was Y chromosome microdeletions. Therefore, we do not suggest STAG3 gene as a strong candidate gene in nonobstructive azoospermia.

Keywords: MSSCP, STAG3, Y microdeletions, Azoospermia

O30: Association of GSTP1 ile105val polymorphism and endometriosis risk in Iranian population

Ehsan Zare Mehrjardi [1] , Seyed Morteza Seifati [2]

1- Medical Biotechnology Research Center, Ashkezar Branch, Islamic Azad University, Ashkezar, Yazd, Iran
2- Medical Biotechnology Research Center, Ashkezar Branch, Islamic Azad University, Ashkezar, Yazd, Iran

Corresponding Author: *seifati@gmail.com*

Background: Endometriosis, one of the most common gynecologic disorders, shows significantly elevated prevalence in industrial areas and there is also a possible genetic predisposition. Glutathione-S-transferases (GSTs) are enzymes involved in the metabolism of many disease-causing carcinogens and mutagens that are present in human environments. A functionally significant A to G transition in GSTP1 gene, codon 105 A to G, causes an amino acid substitution from isoleucine (Ile) to valine (Val), which could influence the enzyme activity. An association between the incidence of endometriosis and the GSTP genotypes of patients has been suggested. The objective of the present study was to investigate whether the polymorphism of GSTP1 was related to endometriosis.

Methods: Samples were obtained from 80 patients and 80 without endometriosis of reproductive age with normal menstrual cycles. Genomic DNA was isolated from peripheral blood cells and genotyping was performed using polymerase chain reaction followed by restriction fragment length polymorphism (PCR-RFLP) analysis.

Result: The frequency of the AA, AG and GG genotype of GSTP1 gene polymorphism in CAD patients were 49.39, 44.44 and 6.17%, while in controls were 49.22, 45.23 and 5.55%, respectively. The results showed that there was no significant association between GSTP1 Ile105Val Polymorphism and endometriosis risk susceptibility in Iranian population.

Conclusion: GSTP1 Ile105Val polymorphism appeared to be unrelated to the risk of endometriosis in our population. However, the results which have been done would change if the gene pool of populations is varied. Further studies are needed to confirm the results.

Keywords: GSTP1, Polymorphism, Endometriosis

O31: Autoimplantation of platelet-rich plasma (PRP) on mesovarium diminished PCOS-induced atresia; correlation with estrogen receptors α and β

Samira Seyed anvari [1] , Mazdak Razi [2] , Gholamreza Dehghan [3]

1- Department of Biochemistry, Faculty of Basic Science, Islamic Azad University, Ahar Branch, Ahar, Iran
2- Department of Comparative Histology & Embryology, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
3- Department of Biology, Faculty of Natural Sciences, University of Tabriz, Tabriz, Iran

Corresponding Author: *Department of Biochemistry, Faculty of Basic Science, Islamic Azad University, Ahar Branch, Ahar, Iran, email: shima.tarighi@gmail.com*

Background: The polycystic ovary syndrome (PCOS) is characterized by hyperandrogenism, chronic oligo-anovulation as well as pie size cystic follicles in cortex of ovaries. Present study investigated the ameliorative/therapeutic effect of autoimplantation of platelet-rich-plasma (PRP) on experimentally-induced PCOS.

Methods: Mature female rats were randomly divided into 5 groups as control and test groups. Experimental PCOS was induced experimentally in all test groups by estradiol valerate (4 mg/rat, IM). The test groups were subdivided into 4 groups as; control-PCOS (sampled after 15 and 30 days post-PCOS-induction), PRP-treated PCOS-induced (sampled 15 and 35 days after PCOS-induction). Blood samples were taken and PRP (8×106 cells) of each animal were collected and reactivated immediately before laparotomy. Then the PRP was implanted in blood scaffold in mesovarium. The protein and mRNA expression of estrogen receptor alpha (ERα) and Beta (ERβ), follicular atresia and serum levels of testosterone and estrogen were investigated.

Result: Observations revealed that, autoimsplantation of PRP on PCOS-induced ovarian tissue significantly (P

Conclusion: Our data showed that implantation of PRP on mesovarium of PCOS ovaries could be considered as new aspects for patients with PCOS. Indeed, PRP partially enhances aromatization and estrogen-related receptors expression, which improves ovulation by diminishing cyst formation and atresia as well.

Keywords: ERα, Atresia, ERβ, Estrogen, PRP, Testosterone, Poly cystic ovarian syndrome

O32: Beneficial effect of omega-3 on diabetes-induced damages at sperm level

Mehdi Khavarimehr [1], Vahid Nejati [2], Mazdak Razi [3], Gholamreza Najafi [4]

1- Department of Biology, Faculty of Basic Science, Urmia University, Urmia, Iran
2- Department of Biology, Faculty of Science, Urmia University, Urmia, Iran
3- Department of Comparative Histology & Embryology, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
4- Department of Comparative Histology & Embryology, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran

Corresponding Author: *Department of Biology, Faculty of Science, Urmia University, Urmia, Iran, email: m.khavarimehr@yahoo.com*

Background: The adverse effect of diabetes on sperm parameters has been illustrated previously by several studies. On the other hand, the essential role of omega-3, a poly unsaturated fatty acid, in infertile men has been reported previously. Therefore, the present study was designed in order to analyze the therapeutic effect of omega-3 in experimentally-induced diabetes in rats.

Methods: To follow-up, current study animals were assigned into four groups as control (with no treatment), diabetes-induced (50 mg/kg sterptozotocin, ip), then the animals in diabetes-induced groups were assigned into non-treated diabetes-induced, 300 mg/kg b.w-1 omega-3-treated and 600 mg/kg b.w-1 omega-3-treated groups. Following 45 days after diabetes induction the sperm samples were obtained. The sperm count, motility, viability and DNA damage were assessed.

Result: Animals in non-treated diabetes-induced group showed a significant (P

Conclusion: Our data showed that omega-3 at doses used is able to inhibit/ameliorate the diabetes-induced detrimental effects. Moreover, 300 mg/kg from omega-3 represents better ameliorative effect in comparison with 600 mg/kg.

Keywords: DNA damage, Omega-3, Sperm count, Sperm motility, Sperm viability, Diabetes

O33: Long-term consumption of dietary tail fat oil induces hypogonadism in male rats

Samira Ezi [1], Mehran Hosseini [2], Mohammad Mehdi Hassanzadeh Taheri [3], Mahsa Hassanzadeh Taheri [4], Farnaz Jahani [5]

1- Department of Anatomical Sciences, Faculty of Medicine, Birjand University of Medical Sciences, Birjand, Iran
2- Department of Public Health, Research Centre of Experimental Medicine, Deputy of Research and Technology, Birjand University of Medical Sciences, Birjand, Iran.
3- Department of Anatomical Sciences, Faculty of Medicine, Birjand University of Medical Sciences, Birjand, Iran.
4- Medical student, Faculty of Medicine, Birjand University of Medical Sciences, Birjand, Iran.
5- Medical student, Faculty of Medicine, Birjand University of Medical Sciences, Birjand, Iran.

Corresponding Author: *Mohammad Mehdi Hassanzadeh Taheri, Department of Anatomical Sciences, Faculty of Medicine, Birjand University of Medical Sciences, Birjand, Iran. Address: South Khorasan province, Birjand city, Ghaffari street,Tell: +985632395374, Fax: +985632433001, Email:mmhtahery35@gmail.com*

Background: Evidence suggesting that high consumption of saturated fatty acids-rich oils/fat can

cause impairment in male reproductive system. However, recently, some remedies were emerged regarding the beneficial effects of tail fat oil (TFO) consumption In Iran. While TFO is widely used as dietary oil in Iran and other Middle East countries, there is no study to evaluate its effects on male reproductive function. The present study was conducted to elucidate the effects of TFO enriched diet on male rat reproduction function.

Methods: In this experimental study, 30 adult male Wistar rats were randomly divided into three equal groups and fed with different diets as follows; group 1(control) : received standard diet, group II and III: received standard diet enriched with 10% or 20% TFO, respectively for 5 consecutive months. Finally, body weight (BW) and testicle weight (TW) were recorded and plasma levels of testosterone (T) were evaluated. Also, Hematoxylin-eosin-stained sections were made from the testes and assessed by quantitative histopathological measurements.

Result: In comparison to control group, rats treated with diet enriched with 20% TFO had significantly ($p \leq 0.05$) more BW while, their TW were significantly ($p \leq 0.0001$) lower. Also, histological changes showed that TFO in a dose dependence manner significantly decreased germinal layer, seminiferous tubule area and spermatogonia number in rat testis ($p \leq 0.0001$-each). There was no significant difference in T concentration between the groups. The data were analyzed via using ANOVA and Tukey post hoc tests.

Conclusion: Our data clearly demonstrated that excessive intake of TFO can be the cause of hypogonadism and infertility in male rats.

Keywords: Hypogonadism, Rat, Tail fat, Testosterone, Testis

O34: The comparison of dietary selenium intake in polycystic ovary syndrome (PCOS) sub groups based on Rotterdam criteria with the control group

Narges Zaeemzadeh [1] , Saeideh Ziaei [2] , Azadeh Mottaghi [3] , Maryam Movahedinejad [4]

1- Tarbiat Modares University, Tehran, Iran
2- Tarbiat Modarres University
3- Tarbiat Modarres University
4- Tarbiat Modarres University

Corresponding Author: *Department of Midwifery, Tarbiat Modares University, Tehran, Iran, email: ngs.zaim@gmail.com*

Background: Polycystic ovary syndrome (PCOS) is the most common endocrine disorder in childbearing aged women in Iran which has relatively high prevalence. There is an oxidative stress and inflammatory basis in the pathogenesis of PCOS. Selenium is one of micronutrients with the powerful antioxidant and anti-inflammatory property. There are many contradictions in relation to dietary selenium intake in PCOS women. This study aimed to assess the dietary selenium intake in PCOS subgroups based on Rotterdam criteria and comparison with the control group.

Methods: This case-control study which was approved by the Medical Ethics Committee, was conducted by available sampling methods on 182 patients eligible for the study. Subjects were classified according to the Rotterdam criteria as follows: A(n=41), B (n=33), C (n=40), D (n=37) and control (without any PCOS)(n=31). Assessment of dietary selenium intake, was carried out by valid and reliable 168-items FFQ. Statistical analysis was performed using SPSS22 software and Kruskal-Wallis (KW) and Mann-Whitney (MW) tests.

Result: A statistically significant difference was observed in dietary selenium intake, between sub groups of PCOS and a control group (KW:$P < 0.05$). The selenium intake, in all sub groups of PCOS, was lower compared to the control group (MW:$P < 0.005$), but no statistically significant differences were found between PCOS subgroups in selenium intake (MW:$P > 0.005$).

Conclusion: With regard to anti-inflammatory and antioxidant effects of selenium, dietary deficiency of this micronutrient, can be one of the modifiable factors affecting the incidence and severity of PCOS.

Keywords: Inflammation, Oxidative stress, PCOS, Selenium

O35: Effect of magnesium supplement on pregnancy outcomes; a randomized control trial

Elaheh Zarean [1] , Amal Tarjan [2] , Mojtaba Keikha [3]

1- Department of Obstetrics and Gynecology ,Isfahan ,Iran
2- Department of Obstetrics and Gynecology ,Isfahan ,Iran.
3- Child Growth and Development Research Center, Research Institute for Primordial Prevention of NonCommunicable Disease, Isfahan University of Medical Sciences, Isfahan

Corresponding Author: *Child Growth and Development Research Center, Research Institute for Primordial Prevention of NonCommunicable Disease, Isfahan University of Medical Sciences, Isfahan, Iran, email: mr.mojtabakeikha@gmail.com*

Background: Dietary intake studies during pregnancy consistently demonstrate that many women, especially those from disadvantaged backgrounds, have intakes of magnesium below recommended levels. There are many evidence that magnesium supplementation during pregnancy may lead to prevention of some pregnancy complications and improve many health indicators and pregnancy outcomes.

Methods: This randomized controlled clinical trial was performed among three groups of pregnant women. Maternal serum magnesium levels of pregnant women with gestational age of 12_14 weeks were measured and those whose serum magnesium levels were less than 1.9 mg per deciliter were selected. Participants were randomized to treatment or control groups through random table numbers. Participants with magnesium serum levels more than 1.9 mg per deciliter were considered as control group A . They just received one multi-mineral tab once a day till the end of pregnancy. Participants in group B received one multi-mineral tab daily till the end of pregnancy. Participants in group C, received 200 mg effervescent magnesium tab from Vittafit company once daily for one month, also they consumed one multi-mineral tab from Alhavi company, that contains 100 mg magnesium, once a day till the end of pregnancy.

Result: In all outcomes measured (Intra Uterine Growth Retardation (IUGR), preterm birth, , low birth weight (LBW), preeclampsia, gestational diabetes (GDM), cramps of leg, Apgar score, stillbirth, premature rupture of membranes (PROM)), pregnant women who received magnesium supplements had better results than other groups.

Conclusion: This present study shows the preventive effect of oral magnesium tablet in many of pregnancy complications.

Keywords: Pregnancy Outcomes, Supplement, Magnesium

O36: Effect of lead acetate on the expression of INHBB in the testes of mice

Armin Adelinik [1] , Shaghayegh Papian [2]

1- Department of Molecular Biology, Faculty of Life Sciences, Islamic Azad University of Parand, Parand, Iran
2- Department of Bacteriology, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran

Corresponding Author: *Department of Molecular Biology, Faculty of Life Sciences, Islamic Azad University of Parand, Parand, Iran, email: armin.adeli88@yahoo.com*

Background: Infertility is a major problem in developing countries and one of the reasons is the disruption of spermatogenesis. Inhibin B is a glycoprotein that is secreted by the testes and provides a negative feedback regulating the secretion of FSH and is effective in spermatogenesis. Lead as an air pollutant causes several disorders in human body such as reproductive system disorder. This research was conducted to determine the effect of lead on inhibin B gene (INHBB) expression.

Methods: In this experimental study, 20 male NMRI mice were randomly assigned to two groups of ten: Control and Lead. The second group (Lead) received lead acetate at the dose of 25 mg/L of drinking water for two months during the experiment. INHBB expression was evaluated using Real-time PCR method and data was analyzed by one-way ANOVA and Tukey at P

Result: Exposure to lead significantly increased inhibin B gene expression in the lead group compared with control group.

Conclusion: This study showed that lead acetate can increase the expression of INHBB in the testes of mice.

Keywords: Curcumin, Inhibin B, Spermatogenesis, Lead

O37: Protective effects of vitamin A on the sperm parameters of cisplatin-induced infertile male rats

Sareh Azarmi

Corresponding Author: *Sareh.azarmi@yahoo.com*

Background: Cisplatin is a chemotherapy drug that is widely used for germ cell tumor and cancer treatment. However, administration of Cisplatin may cause temporary or permanent sterility in male patients. Therefore, reduction of this side effect is necessary.

Methods: Twenty rats were divided four groups. Group I (Control) received a single dose of DMSO and 1mL of distilled water (I.P.). Group II (Cisplatin) received a single of Cisplatin (10 mg/kg) plus 1 ml of the distilled water (I.P.). Group III (Cisplatin + vitamin A) received Cisplatin plus 1mL of vitamin A daily by oral gavages. Group IV (vitamin A) received 1ml of vitamin A daily by oral gavages . After 48 days, semen analysis was used for the assessment of sperm parameters.

Result: Vitamin A increased volume of sperm mobility and stability(5%).Cisplatin decreased sperm count with abnormal morphology(15.8%) and increased volume of sperm normal morphology and mobility in comparison with the vitamin A in Cisplatin treated group (3.7%).

Conclusion: It seems the use of vitamin A decreases side effects of Cisplatin on the male reproductive system and sperm parameters.

Keywords: Cancer, Cisplatin, Fertility, Sperm, Vitamin A

O38: The survey of relative prevalence of orgasm disorder and effective factors in women of Karaj, Iran

Zahra Salmani [1] , Mitra Tadayon [2]

1- Isfahan Medical University, Nursing and Midwifery School, Isfahan, Iran
2- Ahvaz Medical University of Jondishapur - Nursing & Midwifery School, Iran.

Corresponding Author: *No. 4, Shakiba Alley, Northe Bahar Ave., Tehran, Iran, email: salmani3m@yahoo.com*

Background: Evidence suggests that healthy sexual functioning is an important contributor to women's sense of wellbeing and quality of life. The purpose of the study was to determine prevalent of orgasm dysfunction and associated risk factors in women.

Methods: 1200 women aged (15-65) years old were randomly recruited in this study.The study was done using questionnaire including sociodemographic data, sexual life/attitude data and reproductive data. Orgasm function was evaluated by Female Sexual Function Index (FSFI).Data were analyzed using logistic regression model in spss 13.

Result: The prevalence of orgasm disorder (OD) was 26.3% and 12% had never achieved orgasm. Age (OR=2.56), husband's age (OR=2.341), educational level (OR=1.373), length of marriage (OR=1.461) from sociodemograhpic data were correlated with OD. Sexual knowledge (OR=1.693), reproductive health education with parent (OR=1.897), attitude to sexual life (OR=1.547), attitude to the present quantities of intercourse (OR=2.790), initiation of intercourse (OR=2.323) and type of partner's behavior (OR=2.733) from sexual life/ attitude data were significantly associated with OD. In reproductive data number of children (OR=1.427), contraception method used (OR=1.516) and method of delivery (OR=1.593) were connected with OD. No association was found between husband's education, age of marriage, and intercourse frequency per week, pattern of mense, occupation, income , husband's job, separate bedroom and and OD ($p>0.05$).

Conclusion: The findings indicate that orgasm disorder is prevalent among subjects of the study. The effect of sociodemographic, sexual life/attitude and reproductive variables should be considered in management of this disorder.

Keywords: Epidemiology, Orgasm disorder, Risk factors, Female sexual dysfunction

O39: The effectiveness of family-centered empowerment model on irrational thinking of infertile women

Maryam Abunasri, Maryam Modarres [1], Fatemeh Alhani [2], Sogand Ghasemzadeh [3], Ghasemi Erfan [4]

1- Member of nursing and midwifery research center of Tehran University of medical sciences, Faculty member of nursing and midwifery faculty of TUMS, PhD student of medical education of TUMS
2- Associate Professor of Nursing, Dept. Faculty of Medicine, Tarbiat Modares University, Tehran, Iran
3- PhD in Psychology , Faculty of Psychology and Educational Sciences, Tehran University, Iran
4- Ph.D Student in Biostatistics, Biostatistics Dept. Faculity of Paramedical , shahid beheshti Modares University, Tehran, Iran

Corresponding Author: *No. 15, Dameshgh St. Valiasr Sq., Tehran, Iran, email: maryamabunasri.91@gmail.com*

Background: One of the psychological consequences of infertility is the irrational thoughts and ideas about having children. Family-centered empowerment model will improve the health of infertile women with increased family and the women involvement together with their care. This study aimed to determine the effectiveness of family-centered empowerment model on irrational thoughts in infertile women.

Methods: This study was a randomized clinical trial involving 80 infertile women and their husbands in two experimental and control randomized groups which was conducted after the ethics committee of Tehran University of Medical Sciences approved it and the study was recorded in the clinical trial center of Iran. 7 sessions were used in the experimental group in accordance with the empowerment model based on the need assessment of infertile women during three months. The irrational thinking of parent's standard measure tools (Irrational Parenthood Cognitions) were completed in two groups at three times before, immediately after the interventions, and after three months of program execution. Then data were extracted and were analyzed.

Result: The mean and standard deviation of illogical thinking were 33.92 ± 5.98 and 33.20± 6.83 in the control group before and after the study, average and standard deviation of irrational thinking were 34.55± 5.61 and 197.9±3.52 in the test group before and after intervention respectively. An independent t-test result showed a significant reduction in irrational thinking score in the test group after the family-centered empowerment intervention (p

Conclusion: The model of family-centered empowerment has been effective on the reduction of irrational thinking about having children in infertile women after three months of continuous process.

Keywords: Empowerment model, Infertility, Irrational thinking, Empowerment

O40: Effective factors on anxiety in the infertile women undergoing IVF/ICSI treatment referred to Milad IVF center

Maryam Hassanzadeh Bashtian [1], Talat Khadivzadeh [2], Habibollah Esmaily [3], Shapour Badiee Aval [4]

1- Mashhad University of Medical Sciences, Mashhad, Iran
2- Assistant Professor. PhD reproductive health. Mashhad University of Medical Sciences.
3- Professor. PhD biostatic. Mashhad University of Medical Sciences.
4- Assistant professor of Acupuncture Department, MD and Clinical PHD of Acupuncture and Massage. Mashhad University of Medical Sciences.

Corresponding Author: *Maryam Hassanzadeh. School of Nursing and Midwifery.Mashhad University of Medical Sciences, Mashhad, Iran, email: m.h.bashtian@gmail.com*

Background: Infertility may result in a decreased sense of well-being and is then associated with a high frequency of psychosomatic and somatic complaints. Women are generally more affected by infertility than men. The aim of this study was to determine effective factors on anxiety in infertile women undergoing IVF/ICSI treatment.

Methods: In this study of cross-sectional descriptive-analytic, we assessed 129 infertile women. The variables investigated were age, education of woman and husband, job of woman and husband, infertility duration, cause of infertility, history of assisted reproductive therapy (ART), level of anxiety in woman, and some effective factors on the women anxiety. Anxiety levels in women were determined by using Beck anxiety inventory (BAI). For data analyses, we used descriptive and analytic statistics by using of SPSS version 21. Analytic statistics were Kruskal-Wallis, t-test, ANOVA, and chi-square. P value was considered at 0.05.

Result: According to the obtained results, mean of women age in this study was 13.53±5.45. Between women age and theirs anxiety had statistically significant relationship (p

Conclusion: Between age of infertile women and their anxiety, there was a statistically significant relationship. As age increases, the anxiety level decreases.

Keywords: Anxiety, Effective factors, Stress, Women, Infertility

O41: The relationship between serum cortisol levels change with the results of IVF treatment for infertile women with mild to moderate depression in the center of the city of infertility.

Sedighe Keshavarz [1] , Bahar Morshed behbahani [2] , Rashin Palizban [3]

1- Bushehr University of Medical Sciences
2- Shiraz University of Medical Sciences
3- Bushehr University of Medical Sciences

Corresponding Author: *Bushehr University of Medical Sciences, Bushehr, Iran, email: s_keshavarz64@yahoo.com*

Background: The aim of this study was to investigate the relationship between cortisol levels in infertile women with mild to moderate depression. Next, the purpose was to follow the patients after treatment, to assess the consequences of IVF treatment.

Methods: In this prospective study,74 women with mild to moderate depression (questionnaire BeckII) were selected and treated with IVF.Sampling and follow-up of patients from April 2014 to March 2015 continued.Serum cortisol was measured in three stages;1. Before treatment(T1), 2- Day of oocyte retrieval (T2), 3- Day of embryo transfer(T3). Sampling was done at 8 to 9 am. Results were analyzed using SPSS16 software.

Result: 24 women from 74 women became pregnant. Among them, 13 women, under 8 weeks of pregnancy were aborted. Cortisol level at T2 was significantly lower in pregnant group (P=0/01). According to p=0/011, significant association between two variables and improper egg and cortisol levels at T1 were observed in patients so that the fact that high cortisol levels at T1 increases the number of oocytes has been poor. There was no relationship between the abortion and cortisol levels.

Conclusion: Serum levels of cortisol in patients undergoing IVF are associated with pregnancy and the number of poor oocytes. As a result, control anxiety and depression, especially in women with depression and reducing cortisol levels caused by them during IVF treatment can be helpful in improving health consequences.

Keywords: Depression, IVF, Cortisol

O42: Mental health and its predictors in infertile couples

Fatemeh Yahyavi koochaksaraie [1]

1- Nursing and Midwifery Faculty, Babol University of Medical Sciences., Babol, Iran

Corresponding Author: *Nursing and Midwifery Faculty, Babol University of Medical Sciences., Babol, Iran, email: fatemeh.yahyavi@yahoo.com*

Background: Infertility is proposed as a stressful event for infertile persons and mental and social condition can increase its importance and change it to a mental and social crisis. The present study has been carried out with the aim of determining mental health status and its predictors in infertile couples referring to infertility center of Alzahra hospital, 2012-2013.

Methods: This sectional study has been carried out on 345 infertile couples. The purposive sampling was carried out. The data were collected by demographic, perceived social support and mental health questionnaires. Multiple linear regression was used to determine relationship between socio-demographic criteria with mental health.

Result: The average (standard deviation) score of mental health in women and men were 29.70 (11.50) and 24.49 (10.39), respectively from the range of acceptable score between 0-84. The couples had the best status in depression subscale and the worst status in subscale of disorder in social functionality. Variables of social support from the family, cause of infertility, education and family income in men and perceived social support from the family in women were predictors of mental health.

Conclusion: In infertility, women more than men suffer from undesirable status of mental health and social support from family is an effective factor on their mental health. Therefore, it seems necessary to reinforce social support from family for improving infertile couples mental health.

Keywords: Mental health, Socio-demographic factors, Infertility

O43: Experiences of infertile women that are recipients of donation gamete

Leila Asadi [1] , Fatemeh Yazdani [2] , Shahnaz Kohan [3] , Mohammad hossein Nasr esfahani [4]

1- School of Nursing and Midwifery, Shahid Sadughi University of Medical Sciences, Yazd, Iran
2- Master degree of midwifery, School of Nursing and Midwifery, Azad University of Medical Sciences, Semnan,Iran.
3- PhD of reproductive health, Nursing & Midwifery Care Research Centre, Faculty of Nursing & Midwifery, Isfahan University of Medical Sciences, Isfahan, Iran
4- Department of Cell Sciences Research Center (Isfahan Campus), Royan Institute, ACECR, Tehran, Iran

Corresponding Author: *School of Nursing and Midwifery, Shahid Sadughi University of Medical Sciences, Yazd, Iran. Email: l_asadi66@yahoo.com.*

Background: Fertility and childbearing of women is one of the most important features of gender roles. Femininity of women would be completed with fertility and in the cases of infertility, women's feel lack of power and efficiency. One of the therapeutic options for infertility, especially in women with ovarian problems, is use of donation gametes. The experiences of women that are recipient of the donation gamete could be a solution for reducing some of the challenges and tensions about acceptation this treatment in other infertile couples.

Methods: A qualitative study with a phenomenological approach based on purposive sampling was done. For this purpose, depth and unstructured interviews were done with 15 women that are requesting donation gametes who were referred to the Infertility Center of Isfahan. During the interviews, women that were requesting donation gametes explained their experiences completely in this field. At least, all the data were analyzed by colaizzi method.

Result: The results of this study contained 6 overall concepts that were individual tensions, challenges in communication and social issues, challenges in treatment acceptance, treatment problems, beliefs and views and legal issues about gamete donation.

Conclusion: It seems that infertility affects the different aspects of infertile women life. Therefore, understanding the thoughts, beliefs and needs of the recipient of the donation gamete can be of help to develop the quality of care and support services to these women.

Keywords: Gamete donation, Infertility, Women, Experience

O44: Surrogate mothering, egg donation, sperm donation, and embryo donation: attitudes of men and women in a health center of Tehran

Sahar Shahriyarpanah [1] , Ali Abasii [2] , Hesam Nazeri [3] , Masoud Sahbazi [4]

1- School of Medicine, Shahed University, Tehran, Iran
2- Student at the School of Medicine, Shahed University, Tehran, Iran
3- Student at the School of Medicine, Shahed University, Tehran, Iran
4- Master of Intellectual Property Law School and Political Science, Tehran University, Iran.

Corresponding Author: *Kobra Khajavi Shojaei, Faculty of Medicine, Shahed University,Tehran,Iran prskhajavi@yahoo.com*

Background: The number of infertile couples is increasing, not only because of advanced maternal age but also, the quality of gametes has deteriorated. The reasons are lifestyle habits and environmental factors. The aim of this study was to determine opinions and attitudes of the clients of health centers in Tehran toward the (ART) donation methods.

Methods: This study was a descriptive cross-sectional survey that was conducted in 2016. The participants included 135 people who received the questionnaire and a brochure containing information about ART donations methods. The data collection instrument was a researcher made questionnaire.

Result: In this study, 135 people, including 37 males (27.4%) and 98 women (72.6%) participated, with an average age of 29.7 years. Surrogate mothering was approved by a slight majority (47.4%). Legalization of egg donation found lower overall rates of approval (43.7%). The vast majority of participants (60.7%) towards embryo donation were neutral. Overall, 63/3% of participants disagreed with donors identity inscribed in the child's birth certificate.

Conclusion: New techniques in reproductive medicine and their development that provide hope and health promises for affected couples also entail long-term risks and ethical issues. Balancing the individual's right with reproductive autonomy and choice and ethical standards constitutes a future challenge for

society. Results demonstrate considerable uncertainty and information deficiency in the community.

Keywords: Infertility, Pregnancy, Surrogate mothers, Attitude

O45: Social aspects of male infertility: the perceptions and experiences of Iranian women

Fatemeh Zahra Karimi [1] , Ali Taghipour [2] , Robab Latifnejad Roudsari [3] , Sayed Ali Kimiaee [4] , Seyed Reza Mazlom [5] , Maliheh Amirian [6]

1- Student Research Committee, School of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran
2- Associate Professor in Epidemiology, Health Sciences Research Center, Department of Biostatistics and Epidemiology, School of Health, Mashhad University of Medical Sciences, Mashhad, Iran
3- Associate Professor, Evidence-Based Care Research Centre, Department of Midwifery, School of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran.
4- Assistant Professor, Department of Education Faculty of Education and Psychology, Ferdowsi University Of Mashhad, Mashhad, Iran.
5- Lecturer, Evidence-Based Care Research Center, Department of Nursing, School of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran.
6- Assistant Professor of Obstetrics &Gynecology, School of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran

Corresponding Author: *Student Research Committee, School of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran KarimiFZ901@mums.ac.ir*

Background: Children are highly valued for socio-cultural reasons and childlessness often leads to social burden, especially for women, even when they are not the cause of infertility. The purpose of this study was to explore the perceptions and experiences of Iranian women about social aspects of male infertility.

Methods: This was a qualitative study carried out using conventional content analysis. Participants were selected through purposeful sampling and data collection was conducted using in-depth semi-structured interviews. Data were analyzed using conventional content analysis. Validity of the data was approved based on criteria proposed by Lincoln and Guba.

Result: One main category emerged through analysis including perceived family and community stresses with 3 sub-category of 1- Abusive behavior of family and others" (with 5 sub- sub category "Spying and interference ""Reception label and blame" "Rejection""Faced with the misunderstandings family and others" "The sense of discrimination)"2- The presence in specific populations and 3- feeling the lack of social support.

Conclusion: This study illuminates the women suffering from the social effects of male infertility and it seems that the social supports as psychological, financial and economic, educational , training supporting in various ways may have an impression on women welfare and could reduce the social stigma and social isolation.

Keywords: Male infertility, Qualitative study, Social aspects, Women

O46: Infertility and its social consequences on women of reproductive age

Masoomeh Mehmannavazan [1] , Meimanat Hosseini [2] , Farideh Jalili [3]

1- Student Research Committee, Nursing and Midwifery School, Shahid Beheshti University of Medical Sciences, Tehran, Iran
2- Assistant professor, PhD, Faculty Member, Department of Community Health, nursing and midwifery School, Shahid Beheshti University of Medical Sciences. Tehran
3- Nursing Graduate Student, community health tendency, student' research committee, nursing and midwifery School, Shahid Beheshti University of Medical Sciences. Tehran

Corresponding Author: *m.mehmannavaz1371@gmail.com*

Background: One of the most devastating life crisis that sexual partners during their marriage may be faced by it, is the problem of infertility that creates serious consequences on the psychological, physical, economic and social well-being for both spouses, especially women. Social consequences of this dilemma, creates a lot of suffering for women. Therefore, the review study has been designed to assess the social impact of infertility on women of childbearing age.

Methods: In the present review article, English and Persian studies published in 2005-2015 in the database of Web of Science ،Magiran ،Science direct ،Pubmed were examined. A total of 41 papers were analyzed.

Result: More studies were of cross sectional and descriptive. The findings of the study highlighted the social implications of infertility and its effects on the health of infertile women, their coping strategies and interventions to reduce the negative effects of infertility.

Conclusion: The results of the studies show that infertility can create a serious impact on women's

social status and subsequent mental and physical health. So, today effective interventions including social support and psychological interventions to meet these needs is necessary and also urgent need of training and consulting is felt to increase public awareness of infertility and integration of infertility management programs.

Keywords: Infertility, Social consequences, Women

Poster Presentations

P1: The effect of long term administration of ghrelin on testicular regeneration following local heat exposure in rat

Arash Kheradmand [1], Omid Dezfoulian [2], Mohammad Javad Tarrahi [3]

1- Department of Clinical Sciences, School of Veterinary Medicine, Lorestan University, Khorram Abad, Iran
2- Department of Pathobiology, School of Veterinary Medicine, Lorestan University, Khorram Abad, Iran.
3- Department of Biostatistics and Epidemiology, Faculty of Health, Lorestan University of Medical Sciences, Khorram Abad, Iran.

Corresponding Author: *Arash Kheradmand, email: arashkheradmand@yahoo.com*

Background: This study was conducted to examine the efficacy of ghrelin in prevention of deleterious effects of heat stress in rat's testicular tissue.

Methods: Forty-five adult male rats were divided equally into three groups: heat-saline, heat-ghrelin and control-saline. The scrota of heated-designed rats were immersed in water bath at 43ºC for 15 min. Immediately upon heating, 2 nmol of ghrelin was given subcutaneously to heat-ghrelin animals every other day up to day 60 and physiological saline to other groups. The animals were sacrificed 10, 30 and 60 days after heat treatment and their testes were taken for later photomicrograph and immunohistochemical analysis.

Result: Testicular histopathology revealed a significant reduction in the means of seminiferous tubules and Sertoli cell nucleus diameters as well as germinal epithelium height on day 10 in both heated groups. Miotic index, spermatogenesis rate, presence of spermatocytes and volume densities dramatically decreased following heat exposure. Notably, ghrelin caused a partial recovery in all of the above-mentioned parameters and accelerated testicular regeneration process by day 30 compared to the heat-saline group. Because of testicular progressive recovery, these indices were similar among groups on day 60. However, immunohistochemistry evaluation for in-situ detection of Bcl-2 protein did not exhibit any positive germ cells among groups on different days.

Conclusion: The results of the present study, for the first time, indicate the novel evidences of ghrelin ability in attenuation of heat-induced testicular damage and also that ghrelin therapy may be useful in suppressing degenerative effects following testicular hyperthermia.

Keywords: Bcl-2, Heat stress, Rat, Testis, Ghrelin

P2: The impact of stress on fertility of male wistar rat

Masoumeh Jabbarpour [1]

1- Tehran University, Tehran, Iran

Corresponding Author: *Masoumeh Jabbarpour, Tehran University, Tehran, Iran masoomejabarpour@yahoo.com*

Background: The increased stress, as a consequence of modern age, is a major cause of body stressors such as reproductive system dysfunction. This study aimed to determine the impacts of stress on fertility of male Wistar rat.

Methods: We randomly divided 24 male Wistar rats into 3 equal groups. The stressed group was exposed for 10 days to various types of stress including food deprivation, water deprivation, immobilization under 4°C temperature, forced swimming, and isolation. Control group was kept in cages without any stressor. Then, we measured LH, FSH and testosterone of each hormone by Elisa method. Also, for mating and investigation of embryo, we placed each group of male rats in the cage of females with the ratio of 2:1 (two females and one male). Thereafter, we anesthetized the rats and removed and weighed their testis. After preparing microscopic slides and hematoxylin and eosin staining, we determined the count of spermatogonia, spermatocytes, sperm and leydig cells and diameter of seminiferous tubule in the studied groups using Image Tool and finally compared the data.

Result: The results of this study indicated that the mean count of spermatogonia, spermatocytes, sperm and leydig cells in the stressed group significantly differed from control group (p

Conclusion: The results indicated that multiple sequential stresses may negatively affect reproductive system of male Wistar rat by reducing seminiferous tubule diameter and the count of spermatogonia, spermatocytes, sperm and leydig cells. However, this requires further studies.

Keywords: Epididymis, Male Wistar rat, Vas deferens, Seminiferous tubule

P3: Impact evaluation of the alginate and conditioned medium obtained from human adipose-derived mesenchymal stem cells culture medium on the human germinal vesicle (GV) –stage oocytes maturation

Mohsen Sheykhhasan [1] , Mahdieh Ghiasi [2]

1- The Academic Center for Education, Culture and Research, Qom Branch, Qom, Iran
2- The Academic Center for Education, Culture and Research, Qom Branch, Qom, Iran

Corresponding Author: *mahdieh.ghiasi@yahoo.com*

Background: Adipose-derived mesenchymal stem cells secrete a wide range of growth factors and cytokines and these bioactive materials play an important role in cellular processes such as cell growth and maturation. The aim of this study was to evaluate the effect of using alginate 3-D biomaterial and conditioned medium obtained from human adipose-derived mesenchymal stem cell culture medium on the maturation of human germinal vesicles (GV) –stage oocytes obtained from infertile women.

Methods: In this study, immature GV oocytes were obtained from infertile women after their consent. The alginate biomaterial was prepared in laboratory under sterile condition. Then, immature oocytes were seeded on alginate and were transferred into conditioned medium obtained from human adipose-derived mesenchymal stem cell culture medium. After 24 hours, the alginate scaffold broke down and the oocytes were released by sodium citrate. In the end, released oocytes were checked under an inverse optical microscope for maturity status analysis.

Result: Microscopic observations showed that oocyte maturation was performed after exposure to ambient conditions for 24 hours.

Conclusion: The results of the present study showed that conditioned medium obtained from adipose-derived mesenchymal stem cell medium culture can play an important role in oocyte maturation. Also, alginate bimaterial can help the process of oocytes maturation.

Keywords: Conditioned medium obtained from human adipose-derived mesenchymal stem cell culture medium, Immature GV oocytes, Oocyte maturation, Alginate biomaterial

P4: Improvement of expression of α6 and β1 integrins genes and proliferation rate and colonization on mouse spermatogonial stem cells after continues and pulsed low intensity ultrasound

Mahdi Mohaqiq [1] , Mansoureh Movahedin [2] , Manizheh Mokhtari Dizchi [3] , Zohreh Mazaheri [4]

1- PhD candidate, Anatomical Sciences Department, Faculty of Medical sciences, Tarbiat Modares University, Tehran, Iran.
2- Professor, Anatomical Sciences Department, Faculty of Medical sciences, Tarbiat Modares University, Tehran, Iran.
3- Professor, Medical Physics Department, Faculty of Medical sciences, Tarbiat Modares University, Tehran, Iran.
4- Assistant professor, Anatomical Sciences Department, Faculty of Medical sciences, Tarbiat Modares University, Tehran, Iran.

Corresponding Author: *Department of Anatomical Sciences, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran, email: mohaghegh_mahdi@yahoo.com*

Background: Low intensity ultrasound (continues and pulsed) is a form of energy. Spermatogonial stem cells (SSCs) maintain spermatogenesis throughout the life of the male. This study investigates the effects of low intensity ultrasound stimulation (LIUS) and Low Intensity Pulsed Ultrasound Stimulation (LIUPS) on the expression of germ cell-specific and pluripotency genes on SSCs during in vitro culture.

Methods: Isolated SSCs from neonatal male mice were cultured in DMEM culture medium with 10% Fetal Bovine Serum (FBS). Then to confirm identification of SSCs, PLZF protein was detected in these cells and SSCs derived colonies. SSCs were stimulated by LIUS and LIUPS for 5 days and then expression of α6 and β1 integrins (germ cell-specific gene) and Oct-4 genes (pluripotency gene) were assessed at day 21th by qPCR. To investigate the proliferation rate and colonization of treated cells, counting whole number of cells and colonies and their diameters were performed with an optical microscope at every seventh days. Data was analyzed by ANOVA test.

Result: The LIUS and LIUPS treatment of mouse SSCs increased expression of α6 and β1 integrins

genes in experimental groups compared to the control group (P

Conclusion: These results suggested that LIUS and LIUPS treatment had good effect on SSCs proliferation and colonization based on gene-specific marker expression during 21 days of in vitro culture.

Keywords: Colonization, Stem cell, Ultrasound, Proliferation

P5: Effect of south Iranian and commercial Capsicum annuum extract treatment on cryopreserved human sperm

Leila Hosseini Jafari Lavasani [1] , Anita Khanafari [2] , Mansoureh Movahedin [3] , Zohreh Mazaheri [4]

1- Microbiology Department, Biological Sciences Faculty, North Tehran Branch, Islamic Azad University, Tehran-Iran
2- Microbiology Department, Biological Sciences Faculty, North Tehran Branch, Islamic Azad University, Tehran-Iran
3- Department of Anatomical Sciences, Faculty of Medical Science, Tarbiat modares University, Tehran, Iran
4- Department of Anatomical Sciences, Faculty of Medical Science, Tarbiat modares University, Tehran, Iran

Corresponding Author: *Microbiology Department, Biological Sciences Faculty, North Tehran Branch, Islamic Azad University, Tehran, Iran, email: Lavasani.Leila@Gmail.com*

Background: The current research aimed at comparing the effect of Iranian and commercial extracts of Capsicum annuum treatment on human sperm parameters and DNA fragmentation after cryopreservation processing.

Methods: Fifty semen samples were collected from healthy men. Sperm parameters of the frozen-thawed samples were analyzed following treatment with Iranian and commercial Capsicum annuum extracts using CASA software, Diff-Quik and Eosine-B staining. DNA fragmentation was evaluated by halosperm technique. The extracts' components were assessed using gas chromatography. The results were analyzed statistically by T-test, ANOVA and Tukey test as post-hoc using the SPSS software (ver.19).

Result: The results showed that 100µg/ml concentration of standard Capsicum annuum extract, significantly (P≤0.05) increased viability after cryopreservation. The 1.24 mg/ml concentration of ethanol extract of Iranian Capsicum annuum increased the total and progressive sperm motility and normal morphology rate in comparison with commercial Capsicum annuum extracts, and significantly (P≤0.05) decreased sperm DNA fragmentation after sperm cryopreservation. According to GC/MS analysis, Iranian Capsicum annuum extract showed greater capsaicin (5.414%) as the most familiar antioxidant component in comparison with the standard extract (2.686%).

Conclusion: Antioxidant effect of Iranian Capsicum annuum extract can improve semen sample parameters after cryopreservation.

Keywords: DNA fragmentation , Capsicum annuum , Cryopreservation, Extract, Sperm parameters

P6: Evaluation of the Protective Effects of Calligonum Extract on Spermatogonial Stem Cells' Viability in Culture

Shirin Barati [1] , Mansoureh Movahedin [2] , Fatemeh Tahmasebi [3]

1- Department of Anatomical Sciences, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran.
2- Department of Anatomical Sciences, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran.
3- Department of Anatomical Sciences, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran.

Corresponding Author: *Department of Anatomical Sciences, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran, email: baratishirin@yahoo.com*

Background: The aim of this study was to evaluate the protective and antioxidant effects of different doses of Calligonum extract on spermatogonial stem cells (SSCs) viability in culture and to determine the optimal dose with the least toxicity.

Methods: In this study, neonatal NMRI male mice (3-5 day) were used for isolation of SSCs. After isolation, culture and identification of SSC, these cells were treated by different doses of Calligonum extract (0, 1, 10, 30, 50, 70, 100 µg/ml) for 24 hours. To access the optimal dose, viability and the oxidative stress were determined by Trypan blue assay and DCFH-DA, respectively. Antioxidant percentage was measured by FRAP assay. The data were analyzed using SPSS software and One-way ANOVA.

Result: Spermatogonial stem cells colonies appeared after 4 days of culture. These cells expressed OCT4 and PLZF proteins. The results showed that 10 µg/ml concentration of Calligonum extract had antioxidant property with the highest survival rate and the lowest oxidative stress in spermatogonial stem cell during in vitro culture.

Conclusion: According to this study, 10 µg/ml concentration of Calligonum extract can increase viability and decrease intracellular ROS in culture. So, Calligonum extract is a suitable drug for reducing harmful effects of oxidative stress in culture.

Keywords: Antioxidant, Viability, Spermatogonial stem cells

P7: Citrullus colocynthis pulp hydroalcoholic extract minimizes the adverse effects of doxorubicin on fertilization potential of mouse epididymal sperm

Ali Shalizar Jalali [1] , Gholamreza Najafi [2] , Saeid Nafisi [3]

1- Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
2- Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
3- Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran

Corresponding Author: *Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran, email: ali_shalizar@yahoo.com*

Background: Clinical efficacy of doxorubicin (DOX), a widely used antineoplastic drug, is limited by normal tissue damages. The aim of this study was to determine the possible protective effects of Citrullus colocynthis pulp hydroalcoholic extract (CCE) on reproductive toxicity evoked by DOX treatment.

Methods: In this randomized controlled experimental study, 24 adult male mice were divided into groups of 6 animals per group. DOX was administered to two groups of mice at a dose of 1.5 mg/kg intraperitoneally on days 1, 7, 14, 21, 28 and 35. One of these groups received CCE at a dose of 200 mg/kg intraperitoneally four hours after DOX treatment. Vehicle-treated control group and CCE-only treated group were also included. Epididymal sperm fertilizing capacity of all animals was evaluated after 35 days. The data were analyzed by one-way analysis of variance followed by Tukey test for post hoc comparisons.

Result: DOX treatment resulted in significant decreases in fertilization rate and embryonic development along with increased rates of embryo arrest. Concomitant administration of CCE with DOX restored all mentioned parameters toward normal values.

Conclusion: These findings suggest a possible potential role for CCE in protection of DOX-induced reprotoxicities.

Keywords: Doxorubicin, Fertility, Mouse, Sperm, Citrullus colocynthis

P8: Vitrification of Bovine Ovarian Tissue: Effect of Perforated Antral Follicles on the Structural Preservation of Follicles

Asghar Mogheiseh [1] , Fatemeh Namazi [2] , Saeed Safarinejad [3] , Mojtaba Kafi [4] , Mehdi Azari [5]

1- Department of Clinical Sciences, School of Veterinary Medicine, Shiraz University
2- Department of Pathobiology, School of Veterinary Medicine, Shiraz University
3- Department of Clinical Sciences, School of Veterinary Medicine, Shiraz University
4- Department of Clinical Sciences, School of Veterinary Medicine, Shiraz University
5- Department of Clinical Sciences, School of Veterinary Medicine, Shiraz University

Corresponding Author: *Department of Clinical Sciences, School of Veterinary Medicine, Shiraz University, Shiraz, Iran, email: mogheiseh@yahoo.com*

Background: One of the assisted reproductive techniques is cryopreservation of ovarian tissue for preserving fertility, mainly for the patients undergoing radiotherapy and chemotherapy. Despite all scientific studies, researches are continuing to improve the efficiency of this technique. In this study, the effect of bovine ovarian tissue vitrification was investigated on the structural preservation of perforated antral follicles with different diameters.

Methods: The present study was conducted on 20 bovine ovaries and a total of 344 antral follicles (≤4 mm in diameter). The ovaries were transferred from the local slaughterhouse to the laboratory using a flask containing saline with 3437°C temperature. After

washing the ovaries with alcohol 70% and Dulbecco's phosphate buffered saline, three slices (approximately 1×1 cm) were separated from the cortex of each ovary. Randomly, three slices of each ovary were assigned in three groups, the control (without freezing, fixed only in 10% buffered formalin), nonperforated vitrified and perforated vitrified (after exposure to equilibration solution, antral follicles were immediately perforated) groups. After thawing, the tissue slices were evaluated histopathologically. Data were analyzed by chi-squared test using Medcalc 15 software.

Result: Statistically, different methods (groups) did not have significant effect on the degree of follicle damages. No significant difference was observed in the histological damages in the follicle among groups (P>0.05). The diameter of follicles significantly (P

Conclusion: Cortical follicles of bovine ovaries can be successfully vitrified. Moreover, vitrification of perforated follicles does not improve the freezability of bovine antral follicles based on histological evaluation.

Keywords: Bovine, Histopathology, Vitrification, Antral follicle

P9: The effects of aloe vera on mouse spermatogenesis during recovery from irradiation

Melika Daraee [1] , S.M.R Aghamiri [2] , Mehri Azadbakht [3]

1- Shahid Beheshti University Of Medical Sciences,Tehran,Iran.
2- Department Radiation Medicine, Shahid Beheshti University, Tehran, Iran
3- Department of Biology, faculty of Sciences, Razi University, Kermanshah, Iran

Corresponding Author: *Shahid Beheshti University of Medical Sciences, Tehran, Iran, email: melinaz1988@yahoo.com*

Background: Radiation or chemotherapy is commonly used to treat various cancers which may adversely affect normal spermatogenesis. Acute exposure to ionizing radiation in nuclear accident may influence fertility and life quality. We investigated the impacts of acute exposure to X-ray (ionizing radiation) on sperm parameters and radioprotective effects of Aloe Vera on sperm in irradiated male mice.

Methods: 6-8 week old NMRI male mice were procured. There were four treatments including: control, aloe vera, radiation, and aloe vera/radiation. Aloe vera was IP injected at the dose of 200 mg/kg b.w.t for 10 consecutive days before irradiation (5Gy whole body X-ray). The animals were kept and sacrificed at 1, 2, 3, 4, 5 and 6 weeks post-irradiation, groups I, II, III, IV, V and VI , respectively.

Result: 5 Gy of high-energy X-ray induced all sperm parameters in all groups. In contrast, aloe vera treatment improved sperm parameters in all groups. It was confirmed that sperm parameters in aloe vera/radiation treatment were better than radiation alone in all groups. Especially the difference in count, motility and morphology of sperms in aloe vera/radiation treatment was same with controls at 4, 5, 6 weeks. Also, viability and DNA damage of sperm improved aloe vera/radiation treatment in comparison to radiation treatment, as there was no significant difference with control in the 6th week.

Conclusion: Aloe vera compensates the adverse effects of exposure to ionizing radiation on sperm parameters in adult male mice.

Keywords: Aloe vera, Ionizing radiation, Mouse, Radioprotector, Testis, Spermatogenesis

P10: The protective effect of melatonin and the level of antioxidant enzymes and lipid peroxidation of testis after the co-administration of supraphysiological dose of nandrolone decanoate and swimming exercise in rats

Ardeshir Moayeri [1]

1- Department of Anatomy, Ilam University of Medical Sciences (IUMS), Ilam, Iran

Corresponding Author: *Department of Anatomy, Zanjan University of Medical Sciences (ZUMS), Zanjan, Iran, email: moayeri46@medilam.ac.ir*

Background: Anabolic – androgenic steroids (AASs) are used at high doses by athletes for improving athletic ability, muscle mass and physical appearance. Unfortunately, the abuse of these agents significantly increased. It has been established that exercise and high dose of AAS may influence the testicular apoptosis and male fertility. Melatonin is a potent antioxidant and the effect of combination of melatonin, exercise and high dose of AAS on testicular apoptosis is not known. This study investigated the combined effects of melatonin, swimming and high dose of

nandrolone decanoate on apoptosis in the spermatogenic cell lineage.

Methods: 10 groups of adult male rats were treated for 8 weeks: Melatonin(M), (10 mg/kg/weekly),Nandrolone(N) (10/mg/kg/weekly), Swimming(S) (1 hr/day/,5 days a week), MN, MS, NS, MNS, Solvent of melatonin(1% ethanol) as a melatonin vehicle(Sham M), Solvent of nandrolone decanoate(peanut oil) as a nandrolone vehicle(Sham) and sedentary control without any injection or exercise (Control). Apoptosis in the male germ line and spermatozoa was characterized by TUNEL, flourimetry, antioxidant enzymes and RT-PCR.

Result: A significant increase in germ cell and spermatozoa apoptosis was observed in nandrolone-swimming treated tests ($p \leq 0.05$). The increased level of antioxidant enzymes (Gpx-Grd and Catalase and TAC) in melatonin treated groups and MDA in melatonin treated tests decreased.

Conclusion: Melatonin seems to decrease the extent of apoptotic changes caused by swimming and supraphysiologic dose of nandrolone in rats, which in turn affects fertility.

Keywords: Antioxidant enzymes, Nandrolone decanoate, Rat, Swimming, Testis, Melatonin

P11: Effect of a sesame seed regimen on ovarian, uterine endometrial and myometrial diameter structure in rat

Javad Amini Mahabadi [1], Hassan Hassani Bafrani [2], Hossein Nikzad [3], Tahereh Mazouchi [4]

1- Gametogenesis Research Center, Kashan University of Medical Sciences, Kashan, Iran
2- Gametogenesis Research Center, Kashan University of Medical Sciences, Kashan, Iran.
3- Gametogenesis Research Center, Kashan University of Medical Sciences, Kashan, Iran.
4- Gametogenesis Research Center, Kashan University of Medical Sciences, Kashan, Iran.

Corresponding Author: *Hassan Hassani Bafrani, Gametogenesis Research Center, Kashan University of Medical Sciences, Kashan, Iran, email: j.mahabadi64@gmail.com*

Background: Studies show that antioxidants are beneficial for female infertility. Considering that sesame seed contains several important antioxidants, this study was designed to examine the effect of a sesame seed regimen on the ovarian and uterine structure and sex hormones in adult rats.

Methods: This experimental study was conducted on 30 adult male Wistar rats (180 gr) prepared from Physiology Research Center at Kashan University of Medical Sciences. Rats were randomly divided into the experimental and control groups. The control group received the standard regimen, while the experimental group received a special regimen (70% standard food+30% sesame seed) after weaning for 14 weeks. At the end of the study, the weight of the ovary, uterine histology and LH and FSH levels were evaluated.

Result: Our finding demonstrated that administration of sesame seed regimen had no significant difference in the body weight, ovary weight, FSH and LH concentration and number of antral follicle, uterine endometrial and myometrial diameter in the experimental in comparison to the control group and preantral follicle in experimental group increased significantly (P

Conclusion: The outcome illustrated that the decreasing the percentage of atretic follicle and increasing the percentage of preantral follicle has a positive impression in this phenomena.

Keywords: Ovary, Rat, Sex hormones, Uterine, Sesame seed

P12: The protective effect of ascorbic acid on the germ cell apoptosis and level of serum testosterone in mice treated with sodium arsenite

Hamid Piroozmanesh, Malek Soleimani Mehranjani, Samira Naderi Noreini

Corresponding Author: *hp457@yahoo.com*

Background: Arsenic as an environmental toxicant is able to exert malformation in male reproductive system by inducing oxidative stress. Ascorbic acid with potent antioxidant property is able to restrict oxidative stress.

Methods: In this experimental study, NMRI mice were divided into four groups: control, sodium arsenite (7mg/kg), ascorbic acid (150mg/kg) and ascorbic acid

+ sodium arsenite. Gavage treatments were performed for five weeks. At the end, mice were sacrificed and their right testis were taken out, fixed, processed and stained with heidenhain azan method. For the detection of apoptosis, paraffin-embedded sections were stained with the TUNEL technique using an in situ apoptosis detection kit (Rouch) according to the manufacturer's protocols. An enzyme based immunoassay (EIA) system was employed to determine testosterone in the plasma samples collected. Data were analyzed using one way ANOVA and means were considered significantly different at P

Result: A significant increase in apoptotic cells was found in sodium arsenite group compared to the control ones (p

Conclusion: The results indicate that ascorbic acid may be useful in reducing the sodium arsenite-induced toxic effects on reproductive system.

Keywords: Apoptotic , Ascorbic acid, Germ cells, Testosterone, Sodium arsenite

P13: Protective effects of celecoxib, silymarin and testosterone on varicocele-induced derangements in rats testicular tissue

Safa Gholirad [1] , Mazdak Razi [2] , Hassan Malekinejad [3]

1- Department of Comparative Histology and Embryology, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
2- Department of Comparative Histology and Embryology, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
3- Department of Pharmacology and Toxicology, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran

Corresponding Author: *Department of Comparative Histology and Embryology, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran, email: safagholirad@gmail.com*

Background: Present study was performed in order to evaluate the protective effects of Silymarin (SMN), Celecoxib (CCB) and Testosterone (T) on varicocele (VCL)-induced damages in testicular tissue and to analyze the cellular apoptosis, as well.

Methods: Mature Wistar rats were divided into nine groups including: Control and test group. The animals in test group subdivided into; Control-sham VCL-induce, silymarin (SMN)-treated (100mg/kg, orally), celecoxib (CCB)-treated (10mg/kg, orally), testosterone (T)-treated, CCB+SMN, CCB+T, CCB+SMN, SMN+T and CCB+T+SMN groups. Following 60 days, the total antioxidant capacity (TAC), malondialdehyde (MDA) contents and glutathione peroxidase (GSH-px) levels were analyzed. The tissue alkaline-phosphate (ALP), serum testosterone levels, Leydig cells distribution in one mm2 of the connective tissue and intracytoplasmic steroid foci of Leydig cells were assessed. The mRNA and proteins levels of Bcl-2, p53 and caspase-3 were analyzed by using RT-PCR and immunohistochemical techniques. Especial fluorescent staining was used in order to estimate the mRNA damage.

Result: Administrating/co-administrating of CCB, SMN and T significantly (P

Conclusion: The CCB by reducing inflammation-dependent oxidative stress, SMN by up-regulating the antioxidant status and T by promoting the gonadal endocrine potential inhibited the VCL-induced derangements/damages. Finally, triple co-administrating of CCB+SMN+T induces better histological, biochemical and molecular results.

Keywords: Apoptosis, Celecoxib, Inflammation, Oxidative Stress, Silymarin, Testosterone, Varicocele

P14: Effects of L-carnitine in extender on Afshari ram sperm parameters during the freezing-thawing process

Mohammad Kamali [1] , Akbar Pirestani [2]

1- Department of Animal Science, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran
2- Department of Animal Science, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran.

Corresponding Author: *Department of Animal Science, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran *E-mail Address: a.pirestani@khuisf.ac.ir*

Background: The aim of this study was to investigate the effect of L-carnitine in the extender on sperm quality parameters (motility, viability and morphology) of Afshari rams during the freeze-thawing process at seasonal and non-seasonal breeding.

Methods: Four Afshari rams (about 2 years, with an average weight of 57± 47 kg) were selected and semen was collected by electeroejaculator at seasonal and non-seasonal breeding. After initial confirmation of

sperm, dilution was done with extender in order to ensure proper quality. The groups were divided as control group (basic extender), and experimental group with treatment of base extender containing the L-carnitine 1%, 2% and 3%. Sperm motility was estimated in pre freeze and post thaw stage by CASA software. Also, sperm morphology and viability were evaluated by papanicolaou and eosin-nigrosin staining, respectively.

Result: The results showed that progressive and total motility significantly increased in the group of L-carnitine 2% compared to control group at post thaw and non-seasonal breeding ($p \leq 0.05$). However, morphology of sperm was significantly different in L-carnitine 2% than in control group and other treatment groups in pre freeze, post thaw stage at seasonal and non-seasonal breeding. Viability of sperm was significantly different in L-carnitine 2% than control group and other treatment groups in pre freeze, post thaw stage at non-seasonal breeding.

Conclusion: In was concluded that addition of L-carnitine 2% to sperm extender resulted in improvement in ram sperm quality.

Keywords: Extender, Non-seasonal, Ram sperm, Seasonal, L-carnitine

P15: Repressive effects of simvastatin on mouse fertility impairment induced by unilateral testicular ischemia-reperfusion

Ali Shalizar Jalali [1], Mehdi Behfar [2], Gholamreza Najafi [3], Alireza Nourian [4], Mobin Koohestani [5], Mehdi Shahkarimi [6]

1- Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
2- Department of Surgery and Diagnostic Imaging, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
3- Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
4- Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
5- Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
6- Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran

Corresponding Author: *Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran, email: norian.alireza@gmail.com*

Background: The basic pathophysiologic phenomenon in testicular torsion, a common urologic emergency, is ischemia followed by reperfusion. In this study, we investigated the effects of simvastatin (SIM), a lipid lowering agent with antioxidant and anti-inflammatory properties, on mouse epididymal sperm fertilizing potential and subsequent in vitro embryo development in experimentally-induced unilateral testicular ischemia-reperfusion (IR).

Methods: Adult male mice were divided into four groups (n = 6, each). Following anaesthesia, IR was induced by clamping left testicular vessels with an atraumatic microvascular clamp for 30 minutes in IR group. In IR+SIM group, in addition, mice received SIM (20 mg/kg per day) orally for 3 days starting from the day of induction of experimental IR. Vehicle-treated control group and SIM-only treated group were also included. Ipsilateral and contralateral epididymal sperm parameters and fertilizing capacity were analyzed in four groups after 35 days.

Result: Significant decreases in sperm concentration and motility as well as fertilization and blastulation rates were observed in IR group. SIM treatment considerably attenuated IR-induced negative alterations in the above-noted parameters.

Conclusion: These results revealed reproprotective effects of SIM in a murine model of IR probably via suppression of oxidative injuries and inflammatory reactions.

Keywords: Blastocyst, Mice, Simvastatin, Sperm, Ischemia-reperfusion

P16: Contralateral testicular tissue salvage by vitamin E in a murine model of unilateral blunt testicular trauma

Reza Moeini Moghaddam [1], Ali Shalizar Jalali [2], Gholamreza Najafi [3], Mehdi Behfar [4], Alireza Nourian [5]

1- Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
2- Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
3- Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
4- Department of Surgery and Diagnostic Imaging, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
5- Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran

Corresponding Author: *Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran, email: norian.alireza@gmail.com*

Background: Breach of the blood-testis barrier following unilateral blunt testicular trauma (UBTT) can lead to contralateral testicular injuries. The current study was designed to examine the effects of vitamin E (Vit E) on contralateral testicular histoarchitecture in a mouse model of UBTT.

Methods: Male mice at 20-day of age were categorized into four groups (n = 6, each). Following anesthesia, abdomens of group I (control) were sham operated without disturbing either testis. In group II (UBTT) and III (UBTT+Vit E), the abdomen was opened and the right testis was placed on a sterile firm surface and 5 g sterile weight was dropped on to the testis from a height of 10 cm. Group III mice, in addition, received Vit E (100 mg/kg per day) intraperitoneally for 7 days starting from the day of induction of experimental UBTT. A Vit E control group was also included. At 70 days of age, contralateral testicular tissues were taken, processed for 6 µm sections, stained with hematoxylin and eosin and examined using a light microscope. Johnsen's criteria (JS) were also used to categorize spermatogenesis.

Result: In the UBTT group, there was severe disruption in the histoarchitecture of contralateral testes as evidenced by seminiferous tubules atrophy, impaired germinal epithelium structure and germinal epithelium cells degeneration. Furthermore, there was a significant reduction in the JS. Conspicuously, UBTT mice treated with Vit E exhibited an improved histological appearance and increased JS in the contralateral testes.

Conclusion: The findings support that Vit E administration may possess a capability to hinder UBTT-associated contralateral testicular damages.

Keywords: Histology, Mice, Testis, Vitamin E, Unilateral blunt testicular trauma

P17: Individualized diagnosis before infertility treatment : a focus on sperm DNA fragmentation

Ebrahim Cheraghi, IMAN REZAEI [1], Rohollah Fakoori [2], Mojhgan Rahsepar [3], Fatemeh Javanmard [4], Fatemeh Farajollahi [5], Eshrat Beyranvand [6]

1- ART Lab Supervisor & Manager
2- Medical Doctor & Shafa Hospital CEO.
3- ART Dept Fellowship
4- ART senior Operator
5- ART senior Operator
6- ART senior Operator

Corresponding Author: *Shafa Hospital, Infertility Treatment Department, Khorram Abad, Iran, email: stemcellbiologyst@gmail.com*

Background: Male factor infertility is the sole cause of infertility in approximately 20% of infertile couples, with an additional 30% to 40% secondary to both male and female factors. However, approximately 30% of patients with male factor infertility have a normal semen analysis and a definitive diagnosis of male infertility often cannot be made as a result of routine semen analysis. Attention has focused on the role of sperm nuclear DNA integrity in male factor infertility. Couples whose pregnancy resulted in miscarriage demonstrate a trend toward poorer sperm DNA integrity compared with highly fertile couples. It is postulated that if the sperm DNA fragmentation (DF) value exceeds 30%, sperm quality decreases significantly. Studies have shown a negative correlation between DNA fragmentation and fertility in natural and medically assisted cycles. The aim of the present study was to investigate the correlation between standard laboratory parameters of human semen and sperm DNA fragmentation.

Methods: Semen samples from 271 men have been analyzed as a part of diagnostic semen analysis and fertility evaluation by using conventional microscopic semen analyses. In each sample, the concentration, motility, morphology and vitality of spermatozoa were evaluated. Sperm DNA damage was determined by using SCD test with threshold value of DNA fragmentation index (DFI) at 30 % in 102 samples.

Result: Negative correlations were found between DNA fragmentation and motility ($r = -0.41$, $p < 0.001$), morphology ($r = -0.32$, $p = 0.001$) and vitality ($r = -0.36$, $p < 0.001$). We also found that in the group of patients with DFI index < 30 %, there were significantly standard semen parameters with abortion rate.

Conclusion: In this study, we demonstrated the existence of negative significant correlations between DFI and motility, morphology, and vitality. Based on a DFI value, it may be possible to choose the appropriate technique in infertility clinics.

Keywords: DNA fragmentation, Infertility, Sperm, Individualized diagnosis

P18: Pentylenetetrazol detrimental impact on sperm parameters

Solmaz Danai [1] , Farah Farokhi [2]

1- Department of Biology,Faculty of Science, Urmia University, Urmia, Iran
2- Department of Biology,Faculty of Science, Urmia University, Urmia, Iran

Corresponding Author: *Department of Biology,Faculty of Science, Urmia University, Urmia, Iran, email: solmazdanai@yahoo.com*

Background: Pentylentetrazol (PTZ) has been known as a drug, which is widely used as a circulatory and respiratory stimulant. However, the effect of PTZ on reproductive system is not clearly understood. Therefore, the present study was done in order to uncover the effect of PTZ on sperm parameters as main marker for gonadal healthiness.

Methods: Animals were divided into two groups as control and test. Then, 40 mg/kg from PTZ was administrated every 48 hours for 9 days and then it was administrated at dose level of 60 mg/kg for final 1 day. The animals in control group received saline normal (0.4 mL) at same days with PTZ. All animals received chemicals by injection. After 30 days, the animals were euthanized and then the sperm parameters, including sperm count, motility and chromatin condensation and DNA damage were assessed.

Result: Observations revealed that, PTZ resulted in a significant (P

Conclusion: In conclusion, our data showed that, PTZ at dose level of 40 mg/kg is able to adversely affect the sperm parameters even after long time after disrupting its administration. Finally, decreased quality of sperm illustrates the testicular damage, which should be investigated in further studies.

Keywords: Chromatin condensation, Sperm count, Sperm DNA damage, Sperm motility, Pentylentetrazol

P19: Deleterious effects of morphine injection on sperm parameters and DNA integrity in mice

Hasan Bahari [1] , Ali Reza Talebi [2] , Hossein Nahangi [3] , Morteza Anvari [4] , Abolghasem Abbasi Sarcheshmeh [5] , Hengameh Dortaj [6] , Tahmineh Mokhtari [7]

1- Department of Biology & Anatomy, Faculty of Medicine, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.
2- Research & Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.
3- Department of Biology & Anatomy, Faculty of Medicine, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.
4- Research & Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.
5- Department of Biology & Anatomy, Faculty of Medicine, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.
6- Department of Biology & Anatomy, Faculty of Medicine, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.
7- Department of Anatomy, School of Medical, Tehran University of Medical Sciences, Tehran, Iran.

Corresponding Author: *Corresponding author: Ali Reza Talebi, Department of Biology & Anatomy, Faculty of Medicine, Shahid Sadoughi University of Medical Sciences, Yazd, Iran Email: prof_talebi@hotmail.com Tel: (+98)9131532174*

Background: Morphine as a natural alkaloid (opiate) is the most effective pain-relieving drugs and can be abused because of its high addictive potential. Opiate abuse is considered as one of the problems associated with poor semen production and sperm quality. Therefore, for the first time, this experimental study was carried out to evaluate the effect of intraperitoneal injection of morphine on sperm parameters and DNA integrity of spermatozoa aspirated from cauda epididymis of mice.

Methods: Totally 24 adult male balb/c mice (8 weeks old. 30g) were equally divided into 3 groups each containing 8 mice. Mice of group 1 served as control fed on basal diet, group 2 received basal diet and normal saline and group 3 received basal diet and morphine (15 mg/kg/daily, intraperitoneal) for 35 days. Finally right tail of epididymis of each mouse was cut and placed in Ham's F10 for 30 min. Released sperm were used to analyze count, motility, morphology (Papanicolaou), viability (eosin-nigrosin staining) and apoptosis via TUNEL assay.

Result: In morphine-treated mice a significant decrease was found in sperm count, motility, viability and normal morphology compared to other groups (p

Conclusion: The results showed that morphine abuse disturbs sperm parameters and DNA integrity in mice as an experimental model.

Keywords: Apoptosis, Morphine, Sperm parameters, Mice

P20: The effect of herbal drug Ecogold on lactation and reproduction performance in Holstein dairy cows

Amir Karamzadeh Dehaghani [1] , Armin Towhidi [2] , Mahdi Zhandi [3]

1- Department of Animal Sciences, Faculty of Agricultural Science and Engineering, College of Agriculture and Natural Resources, University of Tehran, Karaj, Iran
2- Department of Animal Science, Faculty of Agricultural Science and Engineering, College of Agriculture and Natural Resources, University of Tehran, Karaj, Iran
3- Department of Animal Science, Faculty of Agricultural Science and Engineering, College of Agriculture and Natural Resources, University of Tehran, Karaj, Iran

Corresponding Author: *Department of Animal Science, Faculty of Agricultural Science and Engineering, College of Agriculture and Natural Resources, University of Tehran, Karaj, Iran, email: amir_karamzadeh@ut.ac.ir*

Background: The aim of this study was to evaluate the effect of herbal drug Ecogold on milk yield and composition and reproduction performance in holstein dairy cows.

Methods: Dairy cows were selected and assigned into two equal groups (n=40). The body condition score (BCS) was assessed every two weeks. Blood samples were collected on days -10, 0, 14, 28, 42 and 56 after parturition. Milk yield were recorded, once a week and milk samples were collected to measure the compounds. Reproductive parameters were investigated including conception rate and embryonic death in first insemination, prevalence of metritis and endometritis and follicular dynamics.

Result: There was no significant difference between treatments on milk production (P= 0.29). The herbal drug had no significant effect on milk composition (P> 0.05). The results showed that diets had no significant effect on blood metabolites (P> 0.05), but levels of cholesterol was reduced in the herbal drug group and had a tendency to be significant (P= 0.09). BCSs were lower in the treated group than the control group and had a tendency to be significant (P= 0.06).

Conclusion: Reproductive performance was not significantly different between treatments. Results showed that the herbal drug was not a strong stimulus of nitric oxide and had no significant influence on reproductive and lactation parameters.

Keywords: Follicular dynamics, Herbal drug, Milk yeild, Ecogold

P21: Long term preservation of ram epididymal spermatozoa by addition of bovine serum albumin in soybean lecithin based extender

Pegah Rahimizadeh [1] , Tohid Rezaei Topraggaleh [2] , Vahid Esmaeili [3] , Mina Sharbatoghli [4] , Abdolhossein Shahverdi [5]

1- Department of Embryology, Reproductive Biomedicine Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran.2-Department of Molecular and Cellular Biology, Faculty of Basic Sciences and Advanced Technologies in Biology, University of Science and Culture, ACECR, Tehran, Iran.
2- Department of Embryology, Reproductive Biomedicine Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran.3-Department of Anatomy, Faculty of Medical Sciences, Tarbiat Modares University, P.O.Box: 14115-111, Tehran, Iran.
3- Department of Embryology, Reproductive Biomedicine Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran.
4- Department of Embryology, Reproductive Biomedicine Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran.
5- Department of Embryology, Reproductive Biomedicine Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran.

Corresponding Author: *shahverdi@royaninstitue.org*

Background: Long term preservation of epididymal spermatozoa has been used for artificial insemination and in vitro fertilization of genetically valuable and endangered animals that die unexpectedly. Up to now, the specific medium has not been established for maintaining fertilizing ability of the epididymal sperm over several days, although supplementing some additives such as bovine serum albumin (BSA) could have a protective effect on sperm storage. Therefore, the objective of this study was to evaluate the motion characteristics, viability and membrane integrity of

ram epididymal spermatozoa during 120 hours preservation by adding different concentrations of BSA in soybean lecithin extender.

Methods: Spermatozoa were extracted from cauda epididymis of 20 testes of Zandi's rams and diluted in soybean lecithin extender that supplemented with different concentrations (0,25,50,75 and 100 mg/ml) of BSA. Sperm motility, viability and membrane integrity were evaluated respectively by computer assisted sperm analyzer, eosin-nigrosin staining and Hypo-osmotic swelling test (HOST) at 0,24,72 and 120 hours of refrigeration. Data were analyzed by SPSS software.

Result: Supplementation of 100 mg/ml BSA improved sperm viability during all storage time and membrane integrity at 120 hours compared to control (p0.05), sperm progressive motility was higher at 120 in control group (p

Conclusion: Addition of 100 mg/ml BSA in soybean lecithin extender could improve epididymal sperm viability and membrane integrity during long term preservation. However, sperm motility was not affected by BSA supplementation.

Keywords: BSA, Chilled, Preservation, Spermatozoa, Epididymal

P22: Effects of inducing stress on male and female Wistar rats on sexual hormones, offspring numbers and sex ratios

Iman Rad [1]

1- Najmieh Infertility Treatment Center, Kerman, Iran

Corresponding Author: *Iman Rad, Najmieh Infertility Treatment Center, Kerman, Iran, email: pasha.iman@gmail.com*

Background: Increasing/decreasing hormones affected by factors such as stress during developmental period causes discrepancy in stable effects on growth. Different stresses can affect hypothalamic nucleus. Therefore, considering the above mentioned, the most important aim of the present study was to investigate the effect of stationary stress on hormonal changes of ovary, testicle and sexual ratio of neonates.

Methods: The present study was done on 120 Wistar rats. Animal classification was different in pre- and post-pregnancy in present study. In pre-pregnancy, grouping includes control (without taking any substance), empirical group 1 (only females were under stress), empirical group 2 (only males were under stress) and empirical group 3 (both females and males were under stress). After testing, ten rats were weighed and then were killed from each group. Sample bloods were collected by sampling from heart in order to measure hormonal changes of LH, FSH, testosterone, estrogen and progesterone in female and male rats via Elisa method. Then,the rats were divided into two groups, control group and treatment group in order to study the effect of stress on number of neonates, their birth weights and their sexual ratio and neonates were weighed after pregnancy (21-22 d) and their sexes were determined. Results were analyzed by SPSS software version 14.

Result: Total number of neonates in empirical groups 2 and 3 reduced significantly in comparison to control group. Number of male neonates in empirical groups 2 and 3 reduced significantly in comparison to control group, but number of female neonates in empirical group 2 increased significantly in comparison to control group. Weight of neonates in empirical group 3 reduced significantly in comparison to empirical group 1.

Conclusion: Concentration of LH hormone in female and concentration of FSH hormone in male reduced significantly in comparison to the control group. Concentration of hormones of estrogen and progesterone reduced significantly in comparison to the control group. Considering the above-mentioned, it is clear that stress reduces sexual male and female hormones. Also, birth of male neonates is more than that of female and the number of born alive infants after induced stress has been reduced.

Keywords: Rat, Sexual female hormone, Sexual male hormone, Sexual ratio, Stationary stress

P23: Antioxidant properties of mouse vitrified preantral follicles pretreated with Coenzyme Q10

Roya Hedayati kashka1 [1] , Saeed Zavareh1,2* [2] , Taghi Lashkarboluki1,2 [3]

1- School of biology, Damghan University, Damghan, Iran
2- School of biology, Damghan University, Damghan, Iran & Institute of biological sciences,Damghan University, Damghan, Iran
3- School of biology, Damghan University, Damghan, Iran &

Institute of biological sciences,Damghan University, Damghan, Iran

Corresponding Author: *hedayati.roya@ymail.com*

Background: Cryopreservation is a promising technique for infertile women. Induced oxidative stress during cryopreservation can be neutralized by using antioxidant. Coenzyme Q10 (CoQ10) as a lipid-soluble coenzyme not only has a key role in energy production but also acts as a potent antioxidant. The aim of the present study was to evaluate the antioxidant status of mouse vitrified pre-antral follicles in the presence of CoQ10.

Methods: Mouse isolated preantral follicles were divided into vitrified and fresh groups. After warming, they were subjected to in vitro maturation with or without CoQ10 pretreatment for 12 days. Ovulation was induced by adding human chorionic gonadotropin. In parallel, the amount of Glutathion peroxidase (GPx), Catalase (CAT) and malondialdehyde (MDA) levels were assessed.

Result: The rates of survival, antrum formation, and metaphase II oocytes were significantly higher in CoQ10-supplemented groups compared to those of not treated CoQ10 groups. GPx and CAT decreased significantly during the culture period up to 96 h in the absence of CoQ10 in both vitrified and non-vitrified pre-antral follicles and the amount of MDA increased. However, with pretreatment of CoQ10, GPx and CAT levels increased significantly and MDA decreased compared to respective groups without pretreatment of CoQ10.

Conclusion: Supplemented CoQ10 maturation medium improves developmental competence of vitrified preantral follicles through modifying antioxidant status.

Keywords: Antioxidant status, Coenzyme Q10, In vitro culture, Pre-antral follicle, Vitrification

P24: The effect of vitamin C on spermatogenic cells population and daily sperm production in mice following treatment with dexamethasone

Firoozeh Sadeghzadeh

Corresponding Author: *f-sadeghzadeh@msc.araku.ac.ir*

Background: Dexamethasone is a common medicine used in human and animals. The aim of this study was to investigate the effect of vitamin C (vit C) on spermatogenic, leydig and Sertoli cells population as well as the daily sperm production (DSP) in adult mice treated with dexamethasone.

Methods: 24 adult male NMRI mice (35±2 g) were divided into 4 groups: control, dexamethasone (7mg/kg/day), vit C (100mg/kg) and Vit C+ dexamethasone and treated for 7 days. Mice were then anesthetized and the left testis was used to calculate the DSP and the right testis was used to estimate the population of spermatogenic, Leydig and Sertoli cells using the optical dissector method. The results were analyzed by one-way ANOVA and the means were considered significantly different at p

Result: The DSP, spermatocyte and round and long spermatid cells decreased significantly in mice treated with dexamethasone compared to the control group while in the dexamethasone +vit C group, the mentioned parameters increased significantly compared to the dexamethasone group.

Conclusion: We found that Vit C may be useful in reducing the undesired effects of dexamethasone on spermatogenic cells population and daily sperm production. Therefore, the indication of Vit C in medical regimens including dexamethasone may be useful in preventing the side effects of dexamethasone on the reproductive system. More studies are needed to determine whether higher doses of Vit C or longer duration of treatment can have a more profound effect.

Keywords: Mice, Optical dissector, Testes, Vitamin C, Dexamethasone

P25: Improvement of frozen buck sperm quality using lab-made soybean lecithin-based semen extender

Mojtaba Emamverdi [1] , Ahmad Zare-Shahneh [2] , Mahdi Zhandi [3] , Majid Bahreyni [4] , Fatemeh Dadkhah [5]

1- University of Tehran, Tehran, Iran
2- Professor of Animal Physiology, Agriculture and Natural Resources, University of Tehran
3- Associate Professor of Animal Physiology, Agriculture and Natural Resources, University of Tehran
4- Laboratory Head, Animal Breeding Center of Iran, Karaj, Iran
5- MS.c Student of Honey Bee Rearing, Agriculture and Natural Resources, University of Tehran

Corresponding Author: *Department of Animal Science, College of Agriculture and Natural Resources, University of Tehran, Karaj, Iran. Corresponding author: emamverdi@ut.ac.ir*

Background: The purpose of the present study was assessment of a lab-made soybean lecithin-based semen extender on In vitro post-thawed buck sperm quality.

Methods: For experiment, 10 ejaculates were collected from two top Saanen bucks in breeding season and divided into two equal aliquots individually. The aliquots diluted with 2 different extenders: 1) tris-based extender (TE) containing 1% (w/v) soybean lecithin (SL1) and 2) TE containing 1.5% (w/v) soybean lecithin (SL1.5). The diluted semen was gradually cooled in a refrigerator to 5°C and immediately loaded into straws and frozen with liquid nitrogen. After thawing, sperm motility and motion parameters, plasma membrane functionality, viability and total abnormality were evaluated.

Result: The results of the present study indicated no significant differences in total and progressive motility of spermatozoa using soybean lecithin-based semen extender, but total motility of buck1 sperm (62.1%) was significantly higher than buck2 sperm (58.8%). The VSL (straight line velocity) of spermatozoa was significantly higher in SL1 (71.24%) compared to SL1.5. Also, the results shown that plasma membrane functionality, viability and total abnormality of post-thawed buck sperm had no significant differences using different semen extenders and bucks.

Conclusion: In conclusion, lab-made soybean lecithin-based semen extender led to improvement of frozen buck sperm quality. Further work needs to be done to establish whether soybean lecithin-based extender can improve the artificial insemination efficiency.

Keywords: Freezing, Semen extender, Soybean lecithin, Buck

P26: Follistatin gene expression alteration in prenatally androgenized rats

Marziyeh Salehi Jahromi [1] , Azita Zadeh-vakili [2] , Fahimeh Ramezani Tehrani [3]

1- Cellular and Molecular Endocrine Research Center, Obesity Research Center, Research Institute for Endocrine Sciences, Shahid Beheshti University of Medical Sciences, Tehran, Iran
2- Cellular and Molecular Endocrine Research Center, Obesity Research Center, Research Institute for Endocrine Sciences, Shahid Beheshti University of Medical Sciences, Tehran, Iran
3- Reproductive Endocrinology Research Center, Research Institute for Endocrine Sciences, Shahid Beheshti University of Medical Sciences, Tehran, Iran

Corresponding Author: *Cellular and Molecular Endocrine Research Center, Obesity Research Center, Research Institute for Endocrine Sciences, Shahid Beheshti University of Medical Sciences, Tehran, Iran, email: marziah.salehi@gmail.com*

Background: Follicles imaturation, is a hallmark of polycystic ovarian syndrome (PCOS). In this study we examined the alteration in expression of follistatin (FST) gene, which is involved in folliclugenesis, in adult female rats prenatally exposed to androgen excess by comparing them in different phases of estrus cycle with non-treated rats.

Methods: Eight pregnant Wistar rats in the experimental group were treated by subcutaneous injection of 5 mg free testosterone on day 20 of pregnancy, while controls (n = 8) received only 500 mL of solvent. Adult female off-springs of each mother were divided into four groups as proestrus, estrus, metestrus and diestrus, based on observation of their vaginal smear. Serum steroidogenic sexual hormones and gonadotropins levels were measured using ELISA. RNAs were extracted from ovarian theca cells and relative expression level for FST was measured using Cyber-green Real-Time PCR.

Result: Comparing the treated and controls, relative expression of FST decreased by 0.45 (p

Conclusion: This investigation on gene expression changes in ovarian theca cells in prenatally androgenized rats demonstrated overall reduced expression of the FST gene. Further studies on folliclugenesis involved genes are recommended to confirm these findings and to further explore prenatal effects of excess androgens.

Keywords: Androgen excess, FST, Prenatal, PCOS

P27: Effects of supplemental conjugated linoleic acids (CLA) on fresh and post-thawed sperm quality of Holstein bulls

Reza Karimi [1] , Armin Towhidi [2] , Saeed Zeinoaldini [3] , Kamran Reza Yazdi [4] , Mojtaba Mousavi [5]

1- Department of Animal Science, Faculty of Agricultural Science and Engineering, University of Tehran, Karaj, Iran
2- Department of Animal Science, Faculty of Agricultural Science & Engineering, University of Tehran, Karaj, Iran
3- Department of Animal Science, Faculty of Agricultural Science & Engineering, University of Tehran, Karaj, Iran
4- Department of Animal Science, Faculty of Agricultural Science & Engineering, University of Tehran, Karaj, Iran
5- Department of Animal Science, Faculty of Agricultural Science & Engineering, University of Tehran, Karaj, Iran

Corresponding Author: *Reza Karimi, Department of Animal Science, Faculty of Agricultural Science and Engineering, University of Tehran, Karaj, Iran, email: karimi.reza@ut.ac.ir*

Background: Conjugated linoleic acids (CLA) refers to a group of positional and geometric isomers of the linoleic acid (cis-9, cis-12, octadecadienoic acid). Like other polyunsaturated fatty acids, CLA is incorporated into membrane phospholipids. This study was designed to investigate the effects of feeding protected conjugated linoleic acid (CLA) on the semen production and sperm freezability in Holstein bulls.

Methods: Twelve bulls were randomly assigned into two groups (n=6 per group). Bulls received the normal diet (control group) or normal diet top-dressed with 50 g of CLA (treated group) for 10 weeks. The control group received 40 g/day calcium soaped-fatty acid. Fresh and post-thawed semen quality was assessed on ejaculates collected at the weeks 0, 4, 6, 8 and 10 of supplementation. Semen evaluations including sperm concentration, motion characteristics (subjective and computer-assisted), viability (Eosin-Nigrosin), membrane integrity (hypo-osmotic swelling test) and abnormality were conducted.

Result: Semen volume, sperm concentration and total sperm output were not affected by dietary treatment (P>0.05). The proportion of spermatozoa with abnormal morphology in fresh semen significantly increased (P

Conclusion: It can be concluded that dietary CLA supplementation has inconsistent effects on fresh and post-thawed sperm quality of Holstein bull.

Keywords: Bull, Freezing, Sperm, Conjugated linoleic acid (CLA)

P28: Survey of expression of marker genes in sperm maturation include IZUMO1 in induced human hair follicle stem cells for differentiation into sperm cells

Masoumeh Ebadi zahmatkesh [1] , Masoud Maleki [2]

1- Department of Biology, Tabriz Branch, Islamic Azad University, Tabriz, Iran
2- PhD, Assistant Professor, Department of Biology, Tabriz Branch, Islamic Azad University, Tabriz, Iran

Corresponding Author: *maleki.masoud44@yahoo.com*

Background: Azoospermia refers to cases of semen of men with no sperm or zero count of sperm. Due to low efficiency of previous treatments for this disease, today stem cell field is considered as a new therapeutic approach for the treatment of male infertility. One of the best sources of stem cell is hair follicles that have stem cells including multipotent or pluripotent stem cells. Hair follicle stem cells (HFSCs) have high growth and proliferation capacity and can differentiate into various types of cells.

Methods: HFSCs after isolation from human hair follicles by using explant culture techniques were cultured in T25 flasks. The third passages were induced by sheep testicular extract conditioned medium in four experimental groups and IZUMO1 expression investigated using western blotting technique.

Result: HFSCs after induction changed their shapes and constructed sperm like head and tail and expressed IZUMO1 proteins.

Conclusion: IZUMO1 protein is a sperm protein essential for sperm-egg fusion, and in experimental groups. HFSCs could be differentiated into mature sperm like cells in vitro.

Keywords: Explant culture, IZUMO1, Stem cells, Azoospermia, Western blotting

P29: Effect of vitamin D on sperm apoptosis and DNA integrity of asthenozoospermia

Mahin Taheri Moghadam [1]

1- Ahvaz Jundishapour University Medical Sciences,Ahvaz, Iran

Corresponding Author: *Jundishapour University Medical Sciences, Ahvaz, Iran, email: mahintaherimoghadam@yahoo.com*

Background: Asthenozoospermia is characterized by reduced motility in sperm and causes infertility. Recently, some vitamins are used to improve

infertility. There is some evidence that vitamin D receptor is expressed in human spermatozoa. The action of this vitamin in human male reproduction has not yet been clarified. So, we evaluated the effect of vitamin D on sperm apoptosis and DNA integrity in asthenozoospermia.

Methods: The study was carried out on semen of 7 infertile men who referred to IVF clinic of Imam Hospital in Ahvaz Jundishapour University of Medical School. Samples were processed for swimming up. Supernatant was divided into two groups, one as control and another one had received 100 microliter of vitamin D as experimental group for 1 hour. They were assessed for DNA integrity with aniline and toluidine blue staining and apoptosis of sperm with Annexin V assay.

Result: The results revealed that: 1- Apoptosis in sperm significantly decreased (30±15 Versus 8±4, P value=0.003) 2- Positive aniline blue and toluidine blue were not decreased with vitamin D (37±27 versus 47±30, P value=0.0757 for aniline blue and 35±27 versus 33±22, P value=0.837 for toluidine blue).

Conclusion: In this study, apoptosis of sperm improved after incubation with vitamin D so it can be used for therapeutic opportunities in sperm and male reproduction disorders.

Keywords: Apoptosis, Asthenozoospermia, DNA integrity, Human sperm, Vitamin D

P30: Pre-treatment of the transplantation site with bone marrow mesenchymal stem cells suspension improves the structure and function of mice ovaries auto grafted in the gluteus superficial muscle

Elham Shojafar [1] , Malek Soleimani mehranjani [2] , Sayyed Mohammad Ali Shariatzadeh [3] , Monireh Mahmoodi [4]

1- Arak university,Arak, Iran
2- Professor, Faculty of science, Arak University , Arak, Iran
3- Professor, Faculty of science, Arak university,Arak,Iran
4- Assistant professor, Faculty of science,Arak university, Arak, Iran

Corresponding Author: *elham shojafar*
elhamshojafar@gmail.com

Background: Mesenchymal stem cells are capable of secreting angiogenic and anti apoptotic factors which may reduce post transplantation damage in the grafted ovaries. The aim was to investigate the effect of graft site pretreatment with the suspension of rat bone marrow mesenchymal stem cells (rBMSCs) just before ovarian transplantation on the structure and function of mice grafted ovaries.

Methods: NMRI mice (4-5 weeks age) were divided into three groups (n=6) : control (freshly isolated ovaries), autografted +BMSCs (1 million BMSCs per 5 µl saline) and autografted (5 µl saline). Inthe transplanted groups, the graft sites were treated just before ovarian transplantation. 7 days after ovarian transplantation, the starting day of the estrous cycle was determined and 28 days following transplantation, the ovaries were stereologically studied and the plasma concentrations of estradiol and progesterone were also evaluated. Data were analyzed using one-way ANOVA and Tukey's test and the means were considered significantly different at p

Result: The mean total volume of ovary, cortex and medulla, the number of follicles, the levels of estradiol and progesterone and the estrous cycle recovery rate decreased significantly in the autografted group compared to the control, while the above parameters increased significantly in the autografted + BMSCs group compared to the autographed group.

Conclusion: Transplantation site treatment with rBMSCs improves the structure and function of transplanted ovaries and therefore it could be considered as a new method in the ovary transplantation protocol with less side effect.

Keywords: Mesenchymal stem cells, Mice, Ovary, Transplantation site

P31: Evaluation of the protective effect of Nigella sativa oil on ovarian follicles in mice treated with silver nanoparticles

Mojgan Khajavi Jafarabad [1] , Sayyed Mohammad Ali Shariatzadeh [2] , Samira Naderi Noreini [3]

1- Faculty of Science, Arak University, Arak, Iran
2- Professor, Faculty of science, Arak University, Arak, Iran
3- Assistant, Faculty of science, Arak University, Arak, Iran

Corresponding Author: *Mojgan Khajavi Jafarabad, m.khajavi@gmail.com*

Background: Nano-silver has many applications in modern technology for its strong antibacterial property and has been proven to cause oxidative stress in the ovarian tissue. The aim of this study was to investigate the effect of Nigella sativa oil (NSO) as an efficient antioxidant on ovarian follicles following treatment with Silver Nanoparticles (SNP) in adult mice.

Methods: Twenty-four adult NMRI mice (27±2 gr) were divided into four groups (six mice per group): control; Silver Nanoparticles (300 mg/kg/day, orally), Nigella sativa oil (5 ml/kg/day, orally) and finally Silver Nanoparticles plus Nigella sativa oil. After 30 days, ovarian volume and the number of different types of follicles were estimated by stereological methods. The results were analyzed using one-way ANOVA and Tukey's test, and the means were significantly different at P

Result: The mean total volume of ovary and the number of primordial, primary, perantral and antral follicles significantly decreased in the Silver Nanoparticles group compared with the control group (p

Conclusion: Nigella sativa oil could remarkably improve the destructive effects of Silver Nanoparticles in adult mice ovarian follicles.

Keywords: Mice, Nigella sativa oil, Ovarian follicles, Silver Nanoparticles

P32: The effects of electromagnetic fields on oocyte morphology in rats

Seyed Shahin Ahmadi [1] , Amirafshin Khaki [2]

1- Tabriz Health Services Management Research Center, Tabriz University of Medical Sciences, Tabriz, Iran
2- Tabriz Health Services Management Research Center, Tabriz University of Medical Sciences, Tabriz, Iran

Corresponding Author: *Seyed Shahin Ahmadi, Tabriz Health Services Management Research Center, Tabriz University of Medical Sciences, Tabriz, Iran, Email: Shaahin_ahmadi@yahoo.com*

Background: In recent years, attention to safety effects, environmental and society health, extremely low frequency electromagnetic fields (ELF- EMF) and radio frequency electromagnetic fields (RF-EMF) increased. "Teratogenic", the name is given to the development of the embryo or fetus damaging factors during pregnancy. Overall, teratogens include environmental factors and factors related to the mother.

Methods: For testing, 30 rats were selected and randomly divided into three groups. The control group consisted of 10 rats without any treatments and were kept in normal conditions. The second group and the third group of mice for 8 weeks (three weeks intrauterine and five weeks ectopic) and for 13 weeks (three weeks intrauterine and ten weeks ectopic) were influenced by 50 Hz of a magnetic field respectively. Then, the histology of samples was studied in three groups. After histology process, they were evaluated by light microscopy.

Result: EMF radiations increase the harmful effects on the formation of ovarian follicle and ovule implantation. Studies on the effects of electromagnetic fields on ovarian follicles have shown that oocyte nucleus becomes smaller and changes shape. In the groups affected by electromagnetic waves compared to the control group, there were significant changes.

Conclusion: Exposure to electromagnetic fields during embryonic development can cause morphological changes in the oocyte and affect differentiation of oocyte and folliculogenesis and results in decreased ovarian reserve leading to infertility orreduced fertility.

Keywords: Follicle, Nucleus, Oocyte, Ovary, Radiation, Electromagnetic field

P33: Hydro-alcoholic extract of Nigella sativa ameliorated PCOS-reduced fertilization rate

Ronak Kohzadi [1] , Vahid Nejati [2] , Mazdak Razi [3] , GholamReza Najafi [4]

1- Department of Biology,Faculty of Basic Sciences,Urmia university, Urmia, Iran
2- Department of biology,faculty of basic science,Urmia university, Urmia, Iran
3- Department of comparative histology & embryology,faculty of veterinary medicine,Urmia university,Urmia,Iran
4- Department of anatomy,faculty of veterinary,Urmia university,Urmia,Iran

Corresponding Author: *Ronak Kohzadi, Department of Biology,Faculty of Basic Science,Urmia University, Urmia, Iran, Email: ronak.kohzadi@gmail.com*

Background: Polycystic ovary syndrome (PCOS) is an endocrine and metabolic dysfunction, which is associated with poor oocytes quality, reduced fertilization rate, diminished pregnancy ratio and increasing incidence of miscarriage. Oxidative stress has been known as main disorder in PCOS cases. Hydro-alcoholic extract of Nigella sativa (NS) has been known as a potentially antioxidant substrate. Therefore, the present study was aimed to evaluate the ameliorative effect of NS on fertilization ratio in experimentally-induced PCOS.

Methods: Twenty mature female rats were randomly divided into 4 groups as Control, PCOS-induced (received 4mg/kg/B.W-1 estradiol valerate, IM), PCOS+ NS (200 mg/kg B.W-1)-treated and PCOS+NS (600 mg/kg B.W-1)-treated. Animals received NS orally by gavages for 63 days. After 63 days, hormone pregnant mare serum gonadotropin, (PMSG, 25 IU, IP) was injected. After 12- 14 hours, human chronic gonadotropin (HCG, 15 IU/ mice , IP) was injected. Then oocytes were collected form ampulla of oviduct for estimating in vitro fertilization rate (FR).

Result: PCOS significantly (P0.05) between 200 mg/kg and 600 mg/kg-treated animals.

Conclusion: Our data showed that NS at dose level of 600 mg/kg exerted better FP. Increased FP in NS-treated animals may be attributed to NS-induced antioxidant substrates.

Keywords: Fertilization rate, Infertility, PCOS, Rat, Nigella sativa

P34: Long term resveratrol administration attenuates pro-inflammatory mediators in diabetic rats' testis

Mina Vardyani [1] , Roghayeh Sheervalilou [2] , Ali Abdi [3] , Sakine Shirvaliloo [4]

1- Department of Reproductive Biology, Faculty of Advanced Medical Sciences, Shahid beheshti University of Medical Sciences, Tehran, Iran
2- Department of Molecular Medicine, Faculty of Advanced Medical Sciences, Tabriz University of Medical Sciences, Tabriz, Iran
3- Department of Medical Physiology, Faculty of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran
4- Department of Medical Physics, Faculty of medicine, Iran University of Medical Science, Tehran, Iran

Corresponding Author: *Mina Vardyani, Department of Reproductive Biology, Faculty of Advanced Medical Sciences, Shahid Beheshti University of Medical Sciences, Tehran, Iran. Email: r_valiloo@yahoo.com*

Background: Diabetes mellitus is an endocrine/metabolic disorder which is characterized by hyperglycemia and insufficient insulin secretion. Diabetes causes microangiopathy and macroangiopathy leading to retinopathy, nephropathy and neuropathy. Its impact on the reproductive system is characterized by functional and structural changes of testis tissue. This study was designed to answer whether pro-inflammatory mediators involve in pathogenesis of diabetes-related reproductive system complications; And whether long-term prescription of resveratrol can attenuate these complications.

Methods: Male wistar rats were randomly divided in 4 groups (6 in each): normal control, diabetic control, normal treated with resveratrol and diabetic treated with resveratrol. Induction of diabetes was performed by injection of stroptozotocin and nicotinamid. Resveratrol treatment was carried out orally for four months. At the end of four months, fasted rats were anesthetized and killed. The testis tissues were considered for inflammatory mediators measurements.

Result: Uncontrolled diabetes increased blood glucose levels and decreased the body weights. The activity and the levels of pro-inflammatory mediators were increased in the testis tissues of diabetic rats; Four months treatment with resveratrol reduced all of the above variables as compared with diabetic control group.

Conclusion: Our results showed that pro-inflammatory mediators are involved in the pathogenesis of diabetes-related reproductive system complication in the testis tissue. So, treatment with resveratrol could alleviate these complications. These beneficial anti-diabetic effects suggest that resveratrol can be considered as a new attractive therapeutic approach or a dietary supplement for prevention or retardation of diabetes-related reproductive disorders.

Keywords: Histological changes, Hyperglycemia, Inflammatory mediators, Reproductive System, Resveratrol, Testis, Diabetes

P35: The effectof embryogen medium on 0ocyte in vitro maturation, fertilization rate and embryo development

Taraneh Sadat Zavvar [1] , Hessam Roustaei [2] , Mahnaz MansouriTorshizi [3] , Mahla FadaviIslam [4] , Elham Sabouri [5]

1- School of Pharmacy, Mashhad University of Medical Sciences, Mashhad, Iran
2- School of medicine, Mashhad University of Medical Sciences, Mashhad, Iran
3- Novin Infertility Treatment Center, Mashhad, Iran
4- Novin Infertility Treatment Center, Mashhad, Iran
5- Novin Infertility Treatment Center, Mashhad, Iran

Corresponding Author: *Taraneh Sadat Zavvar, Email: taranehzavar@gmail.com*

Background: This study compared the culture medium commonly used in laboratory setting for oocyte in vitro maturation and embryogen medium from MediCult. Embryogen contains 2ng/ml granulocyte colony-stimulating factor (G-CSF). The aim of this study is to investigate the effect of Embryogen culture medium on Oocyte invitro maturation, Fertilization Rate and Embryo Development in patients that produce only immature oocytes in spite of stimulation with gonadotrophins. In humans, the G-CSF concentration peaks during the ovulatory phase of the ovarian cycle.

Methods: In this prospective randomized study, immature oocytes from patients that produced only immature oocytes in spite of stimulation with gonadotrophins were randomly cultured in embryogen (group A:n=31) or routine lab culture medium (group B:n=45). ICSI and embryo transfer were performed with both media.

Result: A total of 183 immature oocytes were analyzed. There was no statistical difference (p>0.05) in maturation rate (63.1 vs. 57.2 %) and fertilization rate (71.0 vs 64.7%) between two groups. Statistically significant differences in embryo quality were observed in group A compared with group B. In spite of the increase in pregnancy rate in group A compared with group B (16.7 vs. 10.8), the differences were not statistically significant (p: 0.12).

Conclusion: Human recombinant G-CSF is required for proliferation, differentiation, and cell survival. It is also a human oocyte developmental competence biomarker for embryo implantation. The development of immature oocytes did not differ between two groups. This study suggests that embryogen is a more effective IVM and culture medium in generating higher quality embryos and increasing pregnancy rate.

Keywords: G-CSF, In vitro oocyte maturation, EmbryoGen

P36: The Comparison of goat embryo capability in two different simple media: H-TCM vs. vitaSperm during hypothermic storage

Paryia Saberi [1] , Mohsen Frozanfar [2] , Mohammad Hossein Nasr Esfahani [3]

1- Department of Biology, Islamic Azad University, Shiraz Branch, Shiraz, Iran
2- Department of biology, Islamic Azad University, Shiraz Branch, Shiraz, Iran
3- Department of Cellular Biotechnology at Cell Science Research Center, Royan Institute for Biotechnology, ACECR, Isfahan, Iran

Corresponding Author: *Mohsen Frozanfar, Department of Biology, Islamic Azad University, Shiraz Branch, Shiraz, Iran, Email: mfrozanfar@yahoo.com*

Background: Hypothermic storage of mammalian embryos for several days is an alternative way instead of embryo cryopreservation, for embryo transfer purposes. The short-term storage of embryos was previously reported in ovine, bovine, porcine, rabbit, horse, and mouse species by using several media including medium 199, phosphate-buffered saline, M2 medium and Leibovitz L15. The present study was conducted to compare the survival rate and subsequent development of in vitro produced goat embryos following storage in hypothermic condition in VitaSperm TM and medium 199 plus 50% FBS for 2 and 4 days at 4˚ C.

Methods: Cumulus-oocyte complexes (COC) collected from goat ovaries obtained from an abattoir were matured in vitro and then fertilized by the fresh semen. The resulted embryos were cultured and incubated until blastocyst stage in synthetic oviduct fluid at 38.5°C.The blastocysts were loaded into ¼ cm3 French straws with two above mentioned media and stored at 4˚ C for 2 and 4 days. Survival rate after 2 and 4 days cold storage were analyzed by independent-sample t test (p

Result: Morphological assessment of embryo quality after 4 days explained that M-199 resulted had high quality embryo grading than vita. The overall survival rate for 2 days storage was not significant in the two

groups M -199 and Vita (68.51% and 47.40% respectively) but after 4 days M-199 had a significantly higher survival rate than VitaSperm (55.18% and 17.42%, respectively).

Conclusion: This study provided evidence that the medium 199 enabled goat embryos to be held for 4 days at hypothermic condition (4° C).

Keywords: Embryo transfer, Goat, Survival rate, Hypothermic storage

P37: A study of the protective effects of vitamin E and fennel extract on mitochondria changes in mice ovary due to electromagnetic field exposure

Ali Asghari [1]

1- Aras International Branch, Tabriz University of Medical Sciences, Tabriz, Iran

Corresponding Author: *Ali Asghari, Aras International Branch, Tabriz University of Medical Sciences, Tabriz, Iran, Email: a.asghari11@gmail.com*

Background: Everyday use of different types of electrical instruments and appliances has caused a large number of people to constantly be under the influence of electromagnetic fields.

Methods: For the purpose of this study, 40 female rats were randomly chosen from among 3 month old rats from the animals' laboratory and they weighed 20 + 200 g. Then, they were randomly divided into 4 groups; control (n = 10), experiment 1 (Ex1) (n = 10), experiment 2 (Ex2) (n = 10), and experiment 3 (Ex3) (n = 10). During the experiment, all 4 groups were maintained in the same conditions and received the same feeding. The experiment groups 1, 2, and 3 were under the influence of a 50 Hz electromagnetic field (EMF) for 8 weeks. Subsequently, the second and third groups were kept away from the EMF effect for another 8 weeks. At the end of the study, after removal of the ovaries by glutaraldehyde, they were prepared for examination using an electron microscope. Group Ex2 rats were not sacrificed and were maintained in the normal laboratory environment for another 8 weeks away from the impacts of EMF. The rats were fed vitamin E(100 mg/kg) and fennel extract (1.5 g per body weight) every day orally and at the end of the second 8 weeks samples were taken. During the second 8 weeks, group Ex3 was kept in normal conditions without the use of vitamin E and fed fennel extract, and then, samples were taken. Samples were taken simultaneously from 10 rats of the control group and Ex1 group.

Result: The results from the mitochondria in the ovary in the groups under the influence of electromagnetic waves indicated that this intracellular organ, compared to samples from the control group, was deformed and the majority of the organs were vacuolated. The mitochondrial vacuolization of the first to fourth groups were 1 ± 0.55, 9 ± 0.55, 6 ± 0.55, and 11 ± 0.55, respectively.

Conclusion: Vitamin E and fennel extract can reduce the damaging effects of non-ionizing radiation with 50 Hz frequency on the ovarian follicles.

Keywords: Fennel, Mitochondria, Ovary, Electromagnetic field (EMF)

P38: The effect of selenium levels on buffalo epididymal sperm motility changes during preservation in human tubal fluid at 5◦ C

Azad Abasaga [1] , Keivan Abdy [2]

1- Department of Clinical Sciences, Islamic Azad University, Urmia Branch, Urmia, Iran
2- Department of Clinical Sciences, Islamic Azad University, Urmia branch, Urmia, Iran

Corresponding Author: *Keyvan Abdi, Department of Clinical Sciences, Islamic Azad University, Urmia Branch, Urmia, Iran. Email:Keivanabdy@gmail.com.*

Background: In this experiment design, the purpose was to investigate the effect of selenium levels on buffalo epididymal sperm motility.

Methods: Sperms were collected from 20 pairs of buffalo testicles.Collection was carried out in slaughtered animals. Sample processing was performed in a walk-in fridge (5°C) immediately after its arrival to laboratory.Sperm were collected performing several incisions in the caudal epididymis with a surgical blade. Seven levels of selenium (0. 25-0.5-1-1.5-2-2.5-3 mM) were added into human tubal fluid containing sperms (40×106 sperm/ml), with 10%, bovine serum albumin and were kept for 24 hours at 5 ºC. Sperm motility was examined at 1, 6, 12, 24 and 36 hours after being kept in refrigerator at 5 ºC with CASA. We applied one-way ANOVA of SPSS ver 22

analyses and tukey HSD and Tamhane test to determine meaningful differences.

Result: The results showed that selenium at 1 and lower than 1 Mm, causes increase of CASA parameters, such as; rapid progressive motility (Class A, %), slow progressive motility (Class B, %), progressive motility (Class A±B, %), motile sperm (Class A±B±C, %), straight line velocity (VSL, µm/s), average path velocity (VAP, µm/s), curvilinear velocity (VCL, µm/s), amplitude of lateral head displacement (ALH, µm)and LIN in comparison to control group , and levels more than 1Mm,had no desirable effect especially after 12 hrs on buffalo sperm motility.

Conclusion: The selenium improved sperm motility parameters under 1Mm levels in HTF medium.

Keywords: Buffalo, CASA, Epididymal sperm, Selenium

P39: Effect of hyperandrogenism on aromatase expression in granulosa cells of mouse model of polycystic ovary syndrome

Shabnam Bakhshalizadeh [1] , Ashraf Al-Yasin [2] , Masoud Soleimani [3] , Fardin Amidi [4]

1- Department of Anatomical Science, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran
2- Department of Obstetrics and Gynecology, Tehran University of Medical Sciences, Tehran, Iran
3- Department of Hematology, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran
4- Department of Anatomical Science, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran

Corresponding Author: *Fardin Amidi, Department of Anatomical Science, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran, Email: amidifardin@yahoo.com*

Background: Polycystic ovary syndrome (PCOS) is a common endocrine disorder affecting 5-10% of women. PCOS is characterized by hyperandrogenism, oligo- or anovulation and infertility. Disrupted steroidogenesis and altered expression of the related genes in steroidogenesis may lead to PCOS. A key enzyme in ovarian steroidogenesis is aromatase, which is found in granulosa cells. Aromatase participates in conversion of androgens to estrogens, which is essential for follicle maturation. In present study, we compared the expression of cyp19 (aromatase) gene in granulosa cells and the level of serum 17β-estradiol between PCOS mice and normal mice.

Methods: We generated PCOS mice by injecting dehydroepiandrosterone (DHEA) for a period of 20 days. The presence of multiple follicular cysts in ovary was confirmed by histological assay. In our experiment there were 3 groups: Control (no treatment), PCOS (injection of DHEA dissolved in sesame oil for 20 days), and vehicle (injection of sesame oil for 20 days). The expression of cyp19 was analyzed by Real time-PCR and serum level of 17β-estradiol was measured by a chemiluminescence immunoassay.

Result: Our results showed that the expression of cyp19 was significantly increased in granulosa cells of PCOS group compared with other groups. We observed comparatively increased serum level of 17β-estradiol in PCOS mice.

Conclusion: We conclude that hyperandrogenization induced by DHEA may be a key factor that leads to upregulation of aromatase in granulosa cells of polycystic ovary. This is accompanied by increase in serum level of 17β-estradiol.

Keywords: Aromatase, Dehydroepiandrosterone, Estradiol, Hyperandrogenism, Polycystic ovary syndrome

P40: Male rat and ram bone marrow-derived mesenchymal stem cells express different germ cell-specific genes

Mohammad Ghasemzadeh-Hasankolaei [1] , Mohammadreza Baghaban Eslaminejad [2] , Mohammadali Sadighi-Gilani [3]

1- Stem Cell Research Lab., Infertility and Reproductive Health Research Center, Health Research Institute, Babol University of Medical Sciences, Babol, Iran
2- Department of Stem Cells and Developmental Biology, Cell Science Research Center, Royan Institute for Stem Cell Biology and Technology, ACECR, Tehran, Iran
3- Department of Andrology, Reproductive Biomedicine Research Center, Royan Institute for Stem Cell Biology and Technology, ACECR, Tehran, Iran

Corresponding Author: *Mohammad Ghasemzadeh-Hasankolaei, Stem Cell Research Lab., Infertility and Reproductive Health Research Center, Health Research Institute, Babol University of Medical Sciences, Babol, Iran, Email: ghasemzadeh78@gmail.com*

Background: A number of studies have shown that, although, mesenchymal stem cells (MSCs) in specific

microenvironment have the capability of differentiation into the germ cells (GCs), they express some GC-specific genes without any stimulation. The aim of this research was to determine the expression pattern of seven GC-specific genes in the bone marrow (BM)-MSCs of the two well-known animal models of rat and sheep.

Methods: BM samples were collected from the tibia bones of male rat and ram under general anesthesia. The samples were washed with PBS and in rat the whole BM cells were directly cultured in the complete culture medium (DMEM+FBS 15%). Sheep BM-MSCs were isolated using a density gradient (Lymphodex®). The mononuclear cells were cultured in fresh warm complete culture medium. After characterization of the isolated MSCs (flow cytometry and trilineage differentiation test), passage-3 cells were used to evaluate the expression of GC markers (Oct4, Vasa, Piwil2, Fragilis, Stella, Stra8 and Dazl) by RT-PCR.

Result: Molecular analysis by RT-PCR revealed that rat BM-MSCs expressed all examined genes except Dazl. Interestingly, among the seven tested genes, sheep MSCs expressed just Oct4, Vasa and Piwil2.

Conclusion: One possible explanation for different gene expression pattern of the rat and ram BM-MSCs would be interspecies differences and different pathways of evolution they have had. Moreover, different situations of their niches that are determined by the different living conditions and requirements, would be an important factor. It means, different requirements made the cell to stay in a specific condition that requires a specific gene expression profile.

Keywords: Bone marrow mesenchymal stem cells, Expression, Germ cell-specific genes, Ram, Male rat

P41: Association between body mass index and sperm membrane integrity and DNA fragmentation

Zahra Heidari [1] , Mehran Dorostghoal [2] , Hamid Galehdari [3] , Masoud Hamadi [4]

1- M.Sc. of Embryology, Department of Biology, Faculty of Science, Shahid Chamran University of Ahvaz, Ahvaz, Iran
2- Associate Professor of Embryology, Department of Biology, Faculty of Science, Shahid Chamran University of Ahvaz, Ahvaz, Iran
3- Professor of Genetic, Department of Genetic, Faculty of Science, Shahid Chamran University of Ahvaz, Ahvaz, Iran
4- Associate Professor of Embryology, Department of Anatomy, Faculty of Anatomy, Ahvaz, Jundishapur University of Medical Sciences, Ahvaz, Iran

Corresponding Author: *Mehran Dorostghoal, Email: dorostgoal@gmail.com*

Background: There have been evidences that highlight reproductive impairments in men with a high body mass index (BMI). Our study was undertaken to investigate relationship between BMI with sperm membrane integrity and DNA fragmentation.

Methods: The institutional review board of Biology Department, Shahid Chamran University of Ahvaz approved the present study. BMI was measured in a total of 90 men attending an infertility clinic and categorized to three groups with normal weight (18.5-24.9 kg/m2), overweight (25.00-29.9 kg/m2) and obese (≥30 kg/m2). Standard sperm parameters were analyzed according to the World Health Organization (WHO) guidelines. Hypo-osmotic swelling (HOS) test was done to evaluate sperm membrane integrity and sperm DNA fragmentation was analyzed using single cell gel electrophoresis (comet) assay.

Result: No significant differences were observed in sperm concentration, motility and normal morphology and abnormal HOS test between different BMI groups. There was no significant correlation (r=0.132, p=0.215) between abnormal HOS test and BMI. Sperm with fragmented DNA was higher (p

Conclusion: Our study indicates that obesity is associated with a higher level of sperm DNA damage and BMI is a risk factor that should be evaluated in men attending to infertility clinics during fertility assessment.

Keywords: DNA fragmentation, Male infertility, Membrane integrity, Obesity, Body mass index

P42: The preferable sperm cryopreservation method: comparison of motility, viability and MSOME morphology

Nahid Yari [1] , Sahabeh Etebary [2] , Mohammad Ali Khalili [3]

1- Research and Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran
2- Research and Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran

3- Research and Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran

Corresponding Author: *Nahid Yari, Research and Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran, Email: nahidyari@yahoo.com*

Background: Sperm cryopreservation is used in assisted reproductive technology (ART), gamete preservation before radiotherapy or chemotherapy, and sperm banking. The major aim of sperm cryopreservation was to get an optimal number of functional sperms. Evaluation of damage to spermatozoa in different methods of cryopreservation will be useful.

Methods: Semen samples were obtained from 28 infertile patients referred to Yazd research and clinical center for infertility. After preparation each sample, they were divided into four parts and cryopreservation by rapid freezing, freezing with droplet and freezing in straw were performed for each part. Motility, viability and morphology (MSOME) were assessed before and after thawing. To evaluate sperm viability, hypo-osmotic swelling test (HOST) was done. For motile sperm organelle morphology examination (MSOME), examination for each sperm involved the evaluation of head, vacuoles, basis, according to Cassuto scoring system. At least 100 sperm cells were observed and evaluated.

Result: The lowest decrease motility rate was seen in straw method (p

Conclusion: In different methods of sperm cryopreservation, the rate of cooling is an important factor for sperm recovery and also ART outcomes. It was demonstrated that cryopreservation affects sperm motility, morphology and viability to some extent although this damage was lower in our study and lower in some methods like straw method.

Keywords: MSOME, Viability, Vitrification, Human spermatozoa

P43: Spermatogonial stem cells of azoospermic patients can be entered into meiosis in vitro

Sanaz Noori [1] , Masoud Maleki [2]

1- Department of Biology, Tabriz Branch, Islamic Azad University, Tabriz Iran

2- PhD, Assistant Professor, Department of Biology, Tabriz Branch, Islamic Azad University, Tabriz Iran

Corresponding Author: *Masoud Maleki, Email: Maleki.masoud44@yahoo.com*

Background: Azoospermia is a condition that causes infertility in men. Due to low efficiency of previous treatments for this disease, today stem cell field is considered as a new therapeutic approach for the treatment of male infertility. Stem cells are undifferentiated cells and are found in different tissues. These cells have capacity of self-renewal and differentiation into other lineages termed potency. Classification of their potency is totipotent, pluripotent, multipotent, and unipotent. Spermatogonial stem cells (SSCs) are the multipotent stem cells that are considered to be used as an appropriate source in treatment of azoospermic patients for differentiation into sperm cells.

Methods: SSCs after mechanical and enzymatic isolation from azoospermic patient's testes biopsies were cultured in T25 flasks. After confluent phase and second passage, the expression of mesenchymal stem cell markers was assessed by flowcytometry. In the next step, SSCs were induced by sheep testes extraction for differentiation into sperm cells. Expression of SCP3 gene as meiosis marker was investigated by western blotting technique.

Result: After primary culture of SSCs in passage 1 (about 10 days), stem cell markers expression was studied by flowcytometry. Flowcytometry results showed that human SSCs highly expressed CD90, CD105 and CD44 and are positive for Stro-1, CD146, CD106 and CD166. Furthermore, the expression of CD19 and CD45 was observed in low percentage of these cells. After differentiation, these cells showed sperm like shape.Western blotting analysis showed that SCP3 proteins have expressed in differentiated SSCs and this cells have entered into the meiosis stage.

Conclusion: SCCs have stem cell markers that can be differentiated into sperm like cells.

Keywords: SCP3, Sperm, Spermatogonial stem cells, Stem cells, Western blotting

P44: Crocin ameliorated paraquat-decreased in vitro fertilization ratio

Fahimeh Sadat Kamali [1], Rasoul Shahrooz, Golamreza Najafi, Mazdak Razi, Rasoul Shahrooz [2], Golamreza Najafi [3], Mazdak Razi [4]

1- Department of Comparative Histology and Embryology, Faculty of Veterinary Medicine, P.O.BOX:1177, Urmia University, Urmia, Iran
2- Department of Comparative Histology and Embryology, Faculty of Veterinary Medicine, P.O.BOX:1177, Urmia University, Urmia, Iran
3- Department of Anatomy and Embryology, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
4- Department of Comparative Histology and Embryology, Faculty of Veterinary Medicine, P.O.BOX:1177, Urmia University, Urmia, Iran

Corresponding Author: *Kamali, Fahimeh Sadat, 1. Shahrooz, Rasoul *1. Najafi, Golamreza 2. Razi, Mazdak 1. 1- Department of Comparative Histology and Embryology, Faculty of Veterinary Medicine, P.O.BOX:1177, Urmia University, Urmia, Iran. 2- Department of Anatomy and Embryology, Faculty of Veterinary Medicine, P.O.BOX:1177, Urmia University, Urmia, Iran. • Corresponding Email: rasoul_Shahrooz@yahoo.com • TEL: +989143482436*

Background: Paraquat (PQ), N1, N paraquat-dimethyl 4,4 dipyridine, as herbicide has been known to exert cytotoxic impact on reproductive system. Indeed, elevated oxidative stress has been reported as a main pathway for PQ-related damages in reproductive system. Crocin, as a potential antioxidant substrate, has been illustrated in flowers crocus and gardenia. Thus, the present study was done in order to evaluate the protective effect of crocin against PQ-reduced in vitro fertilization ratio.

Methods: To follow-up current study, 28 mature male mice were divided into control (received 0.1 ml/kg.b.w-1 saline-normal, ip), PQ-exposed (received PQ, 5 mg/kg. b.w-1, ip) and PQ+crocin (0.1 mg/kg.b.w-1, ip) -received groups. All chemicals were administrated for 35 days. Oocytes were collected from healthy virgin female mice after standard hormonal therapy (PMSG10 IU /mice and HCG10 IU /mice). Epididyml sperms were sampled from animals and following in vitro fertilization, the percentage of zygotes or in vitro fertilization (IVF) ratio was assessed.

Result: PQ-exposed group revealed a significant (P

Conclusion: Our data showed that crocin at dose level of (200 mg/kg bw-1/day, IP) up-regulates PQ-reduced IVF ratio. Thus, the crocin has a potent protective capacity for ameliorating the impact effects of PQ on IVF parameters.

Keywords: In vitro fertilization, Mice, Paraquat, Sperm, Zygote, Crocin

P45: The effect of amitriptyline on sperm parameters and viability in mice

Ladan Bandegi [1], Alireza Talebi [2], Morteza Anvari [3], Arezoo Khoradmehr [4]

1- Research and Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran
2- Research and Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.
3- Research and Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.
4- Research & Clinical Center for Infertility

Corresponding Author: *Laden Bandeghi, Research and Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran, Email: l.bandeghi@yahoo.com*

Background: Amitriptyline is one kind of the tricyclic antidepressant drugs and is commonly prescribed.It also can be used for treatment of neurogenic pain, nocturia and migraine prophylaxis. The toxicity of this drug is related to the mitochondrial oxidative stress. Our study was designed based on investigating the oxidative effects of amitriptyline on sperm parameters and viability in mice.

Methods: 16 adult male mice were divided into 2 groups (n=8) including experimental and control.In experimental group, each animal received amitriptyline (4mg/kg) for 35 days(duration of spermatogenesis in mice). At the end of the treatment, after killing of mice,the cauda epididymis was removed. According to instructions from the World Health Organization (WHO), the count, motility, morphology and viability of sperm (by Eosin-Negrosin test) were analyzed separately. The data were collected and evaluated using spss software(P-value≤0.05).

Result: The results showed that the sperm parameters including count, morphology and motility had a significant reduction in experimental group when compared with controls.The sperm viability also showed a significant decrease in experimental group in comparison with control animals(30.62±5.74,41.12±5.68, respectively).

Conclusion: According to our results, amitriptyline can affect sperm parameters and viability in mouse. The reduction in sperm parameters may be related to the oxidative stress which was induced by amitriptyline.

Keywords: Amitriptyline, Mice, Oxidative stress, Sperm

P46: The effect of sesame oil on semen quality in adult male rats receiving diazinon

Aref Salehzadeh [1] , Tahereh Rezaee [2] , Ali Rafat

1- Research Center, Hamedan University of Medical Sciences, Hamedan, Iran
2- Research Center Hamedan University of Medical Sciences

Corresponding Author: *Ali Rafat, Email: alirafat1370@gmail.com*

Background: Diazinon is one of non-systemic organophosphate pesticides. Due to the uses in agriculture, health and the veterinary there are different ways of exposure such as contamination of food, water and via inhalation. In the present study, the effects of these toxin on sperm quality were studied. Sesame oil contains high levels of natural antioxidants and is suitable for cooking and frying. The aim of this study was to evaluate the effect of sesame oil on the number, morphology, motility and viability of sperm in adult male rats receiving diazinon.

Methods: In this study, 42 adult male Wistar rats were divided randomly into six groups of seven. The first group was the control group. The second group received 60 mg/Kg of diazinon and third group 2 gram of sesame oil orally. Groups four to six received 1, 2 and 4 gram sesame oil, respectively. Also groups four to six received 60mg / kg of diazinon. Treatments were done on weekly basis and repeated for 8 weeks. Afterward, animals were anesthetized and epididymal sperm analysis was carried out. Counting was accomplished using a Neubauer slide, and morphological characteristics and motility were determined by light microscopy and viability using eosin B.

Result: Rats receiving diazinon showed significant reduction in number of sperm. Groups receiving only sesame oil also showed a somewhat reduced sperm count. But co-ingestion of sesame oil and diazinon caused lower effect on sperm quality. Receiving sesame oil with diazinon improved the motility and survival of sperms.

Conclusion: It seems that sesame oil can alleviate the deleterious effects of diazinon on spermatogenesis of treated rats and improve the quantity and quality of sperm which probably is due to its antioxidant effects.

Keywords: Diazinon, Morphology, Motility, Rats, Spermatogenesis, Viability, Sesame oil

P47: Do sperm parameters have predictive value for rate of DNA fragmentation and hypo-osmotic swelling test?

Samaneh Hassanzade

Corresponding Author: *Samaneh Hassanzadeh, samane.hassanzade42@gmail.com*

Background: Fertilizing ability of sperms is usually evaluated by sperm parameters, DNA integrity and hypo-osmotic swelling test. There is a relationship among these sperm functional tests. The aim of this study was to evaluate predictive value of sperm parameters for rate of DNA fragmentation and hypo-osmotic swelling test.

Methods: Semen of 77 men were analyzed in categories as followed; 15% for morphology, 70 % for motility, and 50 for concentration. Normal range of DNA fragmentation and hypo-osmotic swelling test were

Result: DNA fragmentation rate in the category of

Conclusion: Among sperm parameters, morphology has predictive value for rate of DNA fragmentation and hypo-osmotic swelling test.

Keywords: DNA Fragmentation, Hypo-osmotic swelling test , Fertility, Sperm functional test, Sperm parameters

P48: The effects of hydro-alcoholic extract of achillea millefolium on sperm parameters in cyclophosphamide treated mice

Neda Asle iranifam [1] , Shapour Hasanzadeh [2] , Gholam Reza Najafi [3]

1- Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
2- Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
3- Faculty of Veterinary Medicine, Urmia University, Urmia, Iran

Corresponding Author: *Neda Asle Iranifam, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran, Email: n.iranifam@yahoo.com*

Background: Cyclophosphamide (CP) is a chemotherapy drug with adverse effects on reproductive organs. Achillea millefolium (AM) is a medicinal plant with potential antioxidant properties. The aim of this investigation was to evaluate the effects of extract of AM on sperm parameters in CP Treated mice.

Methods: Thirty male adult NMRI mice were randomly arranged into 5 groups. Group 1 received normal Saline (0.1 ml/kg), group 2 received CP alone (5mg/kg), group 3 received CP (5mg/kg)+ hydro-alcoholic extract of AM (75mg/kg). Group 4 received CP (5mg/kg) + hydro-alcoholic extract of AM (150mg/kg) and group 5 received CP (5mg/kg) + hydro-alcoholic extract of AM (300mg/kg). Treatments were continued for 35 days. At the end, after mice euthanization by cervical dislocation, sperm were obtained from caudal epididymis using dissecting method. Then, the parameters of sperm quality including sperm count, motility, viability were evaluated. Statistical analyses were performed using ANOVA and Tukey test.

Result: In group 2, the sperm count, motility, viability significantly decreased compared to control group (p

Conclusion: These findings indicated that AM (Medium dose) has protective effect against CP - induced reproductive toxicity in CP treated mice probably by decreasing oxidative stresses. But High dose of AM (300mg/kg) caused increase in reproductive toxicity of CP.

Keywords: Cyclophosphamide, Mice, Reproductive toxicity, Sperm parameters, Achillea millefolium

P49: The effects of hydro-alcoholic extract of achillea millefolium on DNA damage in mice

Neda Asle iranifam [1] , Shapour Hasanzadeh [2]

1- Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
2- Faculty of Veterinary Medicine, Urmia University, Urmia, Iran

Corresponding Author: *Neda Asle iranifam, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran, Email: n.iranifam@yahoo.com*

Background: Achillea millefolium inflorescence (AMI) is one of the oldest and most well-known medicinal plants with potential antioxidant properties. The purpose of this study was to evaluate the effects of three different doses of hydro-alcoholic extract of AMI on DNA damage in mice.

Methods: Twenty four male adult NMRI mice were randomly arranged into 4 groups. Group 1 received normal Saline (0.1 ml/kg) and group 2 received hydro-alcoholic extract of AMI (75 mg/kg). Group 3 received hydro-alcoholic extract of AMI (150 mg/kg). Group 4 received hydro-alcoholic extract of AMI (300 mg/kg). Treatments were continued for 35 days. At the end, after mice euthanization by cervical dislocation, cauda epididymis was used to collect sperm cells and rate of DNA damage was examined by Acridine Orange Staining.

Result: In the groups receiving low and medium doses of AMI, DNA damage was reduced, but not significantly compared to the control group. But in the group receiving high dose of extract, DNA damage significantly increased compared to the control group (P

Conclusion: In this study, AMI had dose-dependent manner, so that at low and medium doses it did not revealed significant effect, but high-dose of AMI caused a significantly remarkable reduction in in vitro fertilization and embryos growth.

Keywords: Acridine orange, Antioxidant, DNA damage, Mice, Achillea millefolium

P50: Effect of garlic and echinacea powder on sperm parameters in Japanese quail

Zahra Meraati, Asaad Vaziry [1] , Amjad Farzinpour [2] , Esmaeil Abdolvand [3] , Keyvan Sobhani [4]

1- Assistant professor
2- Assistant professor
3- Student of MSc
4- Student of MSc

Corresponding Author: *Keyvan Sobhani, Department of Animal Science, College of Agriculture, University of Kurdistan, Sanandaj, Iran, Email: Sobhani.keyvan@yahoo.com*

Background: Use of the food additives in poultry nutrition is a solution in the productivity of the animal's feed. Restrictions on the use of plant secondary metabolites with biological activity has increased as a mechanism to improve the performance of poultry.

Methods: There were 120 pieces of quail and they were divided into groups of basal diet (control), basal diet with 4% of total dietary garlic powder and basal diet with 150 mg/kg of total dietary echinacea powder with 6 repetitions.

Result: Garlic powder increased daily sperm, epididymal sperm count, and sperm count in the efferent ducts (P≤0.05). Echinacea increased Gennady index, acrosome safety, membrane safety and survival sperm (P≤0.05).

Conclusion: The results showed that the use of herbs in Japanese quail diets will cause a significant increase in sperm health parameters.

Keywords: Echinacea powder, Gennady index, Japanese quail, Membrane safety, Garlic powder

P51: The effect of gamma-radiation on some sperm characteristics to make mature roosters infertile

Fereshteh Ghadimi [1] , Malak Shakeri [2] , Madi Zhandi [3] , Mojtaba Zaghari [4] , Parham Moslehifar [5] , Alireza Rajabinejad [6]

1- Department of Animal Science, Faculty of Agricultural Science and Engineering, University of Tehran,Alborz, Karaj, Iran
2- Department of Animal Science, Faculty of Agricultural Science and Engineering, University of Tehran,Alborz, Karaj, Iran
3- Department of Animal Science, Faculty of Agricultural Science and Engineering, University of Tehran,Alborz, Karaj, Iran
4- Department of Animal Science, Faculty of Agricultural Science and Engineering, University of Tehran,Alborz, Karaj, Iran
5- Department of Animal Science, Faculty of Agricultural Science and Engineering, University of Tehran,Alborz, Karaj, Iran
6- Department of Animal Science, Faculty of Agricultural Science and Engineering, University of Tehran,Alborz, Karaj, Iran

Corresponding Author: *Fereshte Ghadimi, Department of Animal Science, Faculty of Agricultural Science and Engineering, University of Tehran,Alborz, Karaj, Iran, ghadimi.f@ut.ac.ir*

Background: Several methods have been developed to suppress spermatogenesis in recipient males before spermatogonial stem cells (SSCs) transplantation. The aim of this study was to compare two different doses of gamma-radiation to infertilize mature roosters (ROSS 308 breed) for SSCs transplantation.

Methods: Two radiation therapy regimes (based on 60co isotope) were conducted locally to testes using 40Gy (5×8Gy with three-day intervals) and 30Gy (3×10Gy with three-day intervals). Sperm motility and sperm concentration were monitored for four weeks after radiation therapy.

Result: The results showed that both radiation therapy regimes significantly reduced sperm motility and sperm concentration compared with control group. However, there were no significant differences between 40Gy and 30Gy for these sperm characteristics. Moreover, sperm concentration reached to zero at the end of the 4th week of experiment in both radiation therapy regimes. Radiation treatments had no significant effect on body weight in comparison with control group and the health status of experimental roosters remained good throughout the study.

Conclusion: Given the risk probability of high doses of radiation exposure, it can be concluded that the 30Gy (3×10Gy) is an appropriate dose of gamma-radiation for suppression of endogenous spermatogenesis in mature roosters.

Keywords: Recipient testis, Sperm concentration, Sperm motility, Spermatogenesis, Infertile rooster

P52: Effects of iodized salt on reproductive capability and fertility rate in male and female rats

Mahboobeh Mehrabani Natanzi [1] , Mohammad Kamalinejad [2] , Sayyed Mohammad Hossein Ghaderian [3] , Jamal Kamali [4] , Zohreh Khodaii [5]

1- Dietary Supplements and Probiotics Research Center, Alborz University of Medical Sciences, Karaj, Iran
2- Department of Pharmocognosy and Pharmaceutical Biotechnology ,School of Pharmacy, Shahid Beheshti University of Medical Sciences, Tehran, Iran
3- Department of Medical Genetics, Faculty of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran
4- Dietary supplements and Probiotics research center, Alborz University of Medical Sciences, Karaj, Iran
5- Dietary supplements and Probiotics research center, Alborz University of Medical Sciences, Karaj, Iran

Corresponding Author: *Zohreh Khodaii, Dietary Supplements and Probiotics Research Center, Alborz University of Medical Sciences, Karaj, Iran, Emal: zkhodaii@yahoo.com*

Background: Infertility is a common social and clinical problem with increasing incidence, affecting approximately 13-15% couples throughout the world. Iodine is a trace element that plays essential role in the synthesis of thyroid hormones. The concentration of thyroid hormones in the blood is under the influence of iodine intake and thyroid hormone changes, affecting the reproductive system. Considering the high prevalence of infertility among young couples, in this study, we studied the effects of iodized salt on the reproductive capability, pregnancy outcome and the number, gender and health of rat offspring were examined.

Methods: For this purpose, 40 male and female Wistar rats were divided into two groups including the iodized salt-treated group and the euthyroid (control) group. Rat's food consisted of 87.5 percent wheat flour, 6 percent casein and 5 percent peanut oil. Since flour is often poor in calcium and sodium, in the diet of rats 7g/kg of NaCl and 7.5 g/kg of CaCO3 were added. To evaluate the effect of iodized salt on the fertility of rats in this study, 0.56 mg potassium iodate per kg of the above mixture was added. Obtained dough came in the form of small cubes (similar to Pellet) by a hopper. Each group was kept in separate cages and received oral administrations of supplemented bread for 4 weeks. After weighing the rats, 24 hours after the last feeding with iodized food, each male rat with a female rat of the same race was housed in one cage for 3 days. Male rats were killed, after three days and female rats were fed with regular diet until delivery. At the end of study for each rat, the number of live births, offspring with birth defects, newborn's gender and stillbirths was recorded.

Result: The results of this study showed that the number of children of couples who received iodine was significantly lower than all other groups (P<0. 05). Also the average number of live and healthy children of couples who received iodine was significantly lower than other groups (p< 0.001).

Conclusion: Therefore, more research is required in order to determine the negative impact of excess iodide salt on reproductive capability and the fertility rate in euthyroid couples.

Keywords: Infertility, Rat, Thyroid hormones, Iodide salt

P53: Effect of antioxidant supplements on post-thawed buffalo bull sperm parameters

Rahim Beheshti [1] , Vahidi Dianat [1] , Siavash Nasrollahi [1]

1- Department of Veterinary Medicine, Shabester Branch Islamic Azad University Iran.

Corresponding Author: *Rahim Beheshti, Department of Veterinary Medicine, Shabester Branch Islamic Azad University Iran, Email: beheshti@iaushab.ac.ir*

Background: The sperm cells protection against oxidative reactions during cryopreservation process was done by antioxidant and amino acids agents. The purpose of this study was evaluation of the effects of vitamin E on Azerbaijan buffalo bull´s sperm cells after thawing.

Methods: Therefore, for definition the percentage of motility, acrosomal membrane integrity, and live ratio of sperm cells, ejaculations from five mature buffalo bulls after preparation in tris-yolk base medium were added with five levels of vitamin E (0.1, 0.5, 1 or 1.5 mM) separately and frozen process was performed. One month latter, five points were selected randomly and after thawing at 37 °C water bath in twenty seconds, sperm cells motility was evaluated with 37 °C warm plate microscope. On the other hand, the one step eosin-nigrosin staining for evaluation of live ratio percentage and formal citrate for acrosomal membrane integrity was performed and then slides were evaluated with 1000x light microscope and 200 sperm per slide was counted.

Result: The result showed significant difference between blank and vitamin E groups and sperm motility was higher in vitamin E (P

Conclusion: Between vitamin E groups, the percentage of live-ratio was higher in vitamin E 1.5 mM and lower in vitamin E 0.1 mM (P

Keywords: Semen, Vitamin E, Buffalo bull

P54: Impact of melatonin on IZUMO1, and in vitro fertilization in mouse

Monireh Kanani [1] , Laila Roshangar [2] , Nahid Karimian [3]

1- Tabriz university of Medical Sciences, Tabriz, Iran
2- Professor of Tabriz university of medical sciences

3- Master of Science of Genetic of Tabriz university of medical sciences

Corresponding Author: *Monireh Kanani, Tabriz university of Medical Sciences, Tabriz, Iran, Email: kananimonireh94@gmail.com*

Background: Melatonin is a powerful antioxidant that can modulate gene and protein expression. Gamete fusion is the culminating step of fertilization. Recently studies have proven that the acrosomal protein IZUMO1 is essential for sperm-egg fusion. The aim of this study was to determine if melatonin can affect on the expression of IZUMO1 sperm surface and how is outcome of in vitro fertilization.

Methods: In this study, 60 female and 30 male adult mic were used. Ovulation induced by 10 unit PMSG (pregnant mare serum gonadotropin) and HCG (human chorionic gonadotropin). For collection of sperm the caudate part of epididym was removed and cultured with 10 micrimolar melatonin for one hour. And the expression of IZUMO1 was detected using RT-PCR (real-time polymerase chain reaction). And rate of fertilization was evaluated by IVF. All data was analyzed by t-test.

Result: The result showed the level of expression of IZUMO1 in experimental groups comparing with controls significantly increased (p

Conclusion: The result indicated that melatonin as antioxidant factor increases the level expression of IZUMO1 on sperm and oocyte fertilization rate. It is concluded that the melatonin could improve fertility rate by increasing IZUMO1 activity on sperm.

Keywords: Antioxidant, Gamete fusion, Gene expression, In vitro fertilization, IZUMO1, Melatonin

P55: The Effect of trehalose in soybean lecithin-based extender on Holstein bull sperm cryopreservation

Seyyed Mojtaba Mousavi, Armin Towhidi, Mahdi Zhandi, Abdollah Mohammadi-Sangcheshmeh, Ghassem Amoabediny

Corresponding Author: *Armin Towhidi1 1Department of Animal Science, Faculty of Agricultural Science and Engineering, University of Tehran, Karaj, Iran 2Department of Animal and Poultry Science, College of Aburaihan, University of Tehran, Pakdasht, Tehran, Iran 3Research Center for New Technology in Life Science Engineering, University of Tehran, Iran, Email: atowhidi@ut.ac.ir*

Background: The advantages of soybean lecithin-based extenders have been reported by several studies. However, its effects on bull sperm quality still need to be fully studied. The objective was to assess the effect of of trehalose in extender on post-thawed bull sperm quality.

Methods: Semen samples were collected from six Holstein bulls at Iranian Progeny Test Center. Six different extenders were prepared by the addition of six levels of trehalose (0, 3.12, 6.26, 12.5, 25 and 50 mMol) to soybean lecithin-based extender (basic extender) and AndroMed® was used as control. Sperm motility by computer-assisted motion analyses, plasma membrane functionality, viability and morphology were evaluated. Data were analyzed by GLM procedure using SAS 9.1.

Result: The results showed that adding trehalose in extender, did not improve post-thawed bull sperm quality and basic extender in some motion parameters (PM: 52.44 %, VCL: 174.33, ALH: 3.73 and STR: 63.91 µm/s) was significantly higher compared to AndroMed® (PM: 50.66 %, VCL: 148.18, ALH: 3.18 and STR: 62.05 µm/s) and higher than other extenders. Basic extender and AndroMed® in terms of plasma membrane functionality was 56.68 and 50.46 %, respectively and viability 72.06 and 73.88 %, respectively.

Conclusion: In conclusion, cryopreservation of bull sperm in soybean lecithin-based extender free of trehalose was comparable with AndroMed® extender.

Keywords: CASA, Cryopreservation, Trehalose, Bull Sperm

P56: Comparative study of sperm quality on swim up and upstream processing techniques

Mahnaz Heidari [1], Mahsa Darbandi [2], Sara Darbandi [3], Saeedeh Shani [4], Niknam Lakpour [5], Mohammad reza Sadeghi [6]

1- Department of Embryology, Reproductive Biotechnology Research Center, Avicenna Research Institute (ARI), ACECR, Tehran, Iran
2- Department of Embryology, Reproductive Biotechnology Research Center, Avicenna Research Institute (ARI), ACECR, Tehran, Iran

3- Department of Embryology, Reproductive Biotechnology Research Center, Avicenna Research Institute (ARI), ACECR, Tehran, Iran
4- Department of Embryology, Reproductive Biotechnology Research Center, Avicenna Research Institute (ARI), ACECR, Tehran, Iran
5- Department of Embryology, Reproductive Biotechnology Research Center, Avicenna Research Institute (ARI), ACECR, Tehran, Iran
6- Department of Embryology, Reproductive Biotechnology Research Center, Avicenna Research Institute (ARI), ACECR, Tehran, Iran

Corresponding Author: *Mahnaz Heidari, Department of Embryology, Reproductive Biotechnology Research Center, Avicenna Research Institute (ARI), ACECR, Tehran, Iran, Email: heidari_m2001@hotmail.com*

Background: Sperm processing methods separate motile sperm with good morphology from dead and abnormal forms of sperm, immature germ cell and none sperm cells. The propose of this study was to compare the effects of upstream and swim-up processing techniques on quality of prepared sperm.

Methods: This prospective study used semen samples from 60 normozoospermic men who attended the Avicenna Infertility Clinic, Tehran, Iran. Specimens were divided into equally aliquots for processing by swim up and upstream method. Sperm concentration, morphology, motility, DNA fragmentation and chromatin maturation were measured before and after preparation through two methods.

Result: The results revealed that the of sperm concentration in swim up samples was significantly greater than upstream samples (p 0.05). However, there wasn't a significant difference between sperm DNA fragmentation and sperm chromatin maturation between two groups (P>0.05).

Conclusion: In our study, we compared swim up with the upstream method and found that the swim up sperm processing is still a simple, inexpensive, reliable and widely available method with efficient yield to separate motile sperm with good morphology and better chromatin integrity for insemination in the infertility clinics.

Keywords: Chromatin maturation, DNA fragmentation, Swim up, Upstream method, Sperm

P57: Curcumin protects the testis in chronic variable stress-treated rats with or without a recovery period; a stereological and histochemical study

Masoomeh Mohamadpour [1] , Ali Noorafshan [2] , Saied Karbalay-Doust [3] , Tahereh Talaei-Khozani [4] , Elham Aliabad [5]

1- PhD student of anatomy, Histomorphometry and Stereology Research Centre, Shiraz University of Medical Sciences, Shiraz, Iran
2- Anatomy Department,Histomorphometry and Stereology Research Centre, Shiraz University of Medical Sciences, Shiraz, Iran
3- Anatomy Department,Histomorphometry and Stereology Research Centre, Shiraz University of Medical Sciences, Shiraz, Iran
4- Department of Anatomy, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran
5- Department of Anatomy, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran

Corresponding Author: *Masoomeh Mohamampour, mohamadpour2817@yahoo.com*

Background: Chronic variable stress (CVS) can jeopardize reproductive organ including testis. Curcumin (CUR) as a cell protectant component is the key element of the turmeric. The objective was to evaluate the possible protective effect of CUR on the CVS-treated rats with or without a recovery period on the testis structure and function.

Methods: Sprague-Dawley rats were assigned to seven groups: control, distilled water, CUR (100mg/kg/day dissolved in 0.5mL of olive oil), olive oil, CVS, CUR+CVS and olive oil+CVS. Half of the animals were sacrificed after 15 days and the second half was allowed to recover for 50 days. Testosterone and cortisol serum levels, semen parameters, spontaneous acrosome- reaction, acrosome-intact spermatozoa and testis stereological structure were evaluated.

Result: Significant deviations from the normal range were occurred in testosterone and cortisol serum levels, semen parameters, the percentage of the spontaneous acrosome-reaction in CVS and CVS+recovery groups compared to the control rats (P

Conclusion: Exposure of rats to 15 days of stress can alter testicular structure and function even after 50 days of recovery period. Curcumin can protect the testis in the stress-exposed rats.

Keywords: Curcumin, Histochemistry, Rat, Stress, Testis, Stereology

P58: The effects of salvia officinalis L. (sage) hydro-alcoholic extract on chromatin condensation and apoptosis of mouse ovarian granulosa cells

Akram Nadi, Malihezaman Monsefi

Corresponding Author: *Akram Nadi, Biology Department, College of Sciences, Shiraz University, Shiraz, Iran, Email: nadiakram575@yahoo.com*

Background: Nowadays, medicinal plants usage is increased in the world. Some of these plants can affect reproductive system and induce infertility. Therefore, at present study, the effects of salvia officinalis hydro-alcoholic extract (SOHE) on ovarian granulosa cells were examined.

Methods: Immature mice were superovulated by PMSG and their granulosa cells were separated and cultured. After 24 h, the cells were treated by concentrations of 0, 10, 50, 100, 500 and 1000 µg/ml of SOHE. Granulosa cell bioviability, chromatin condensation and their apoptosis were examined by neutral red, aniline blue and acridine orange-ethidium bromide staining respectively. The chromatin condensation was analyzed by Image Java Software.

Result: The results showed that 500 and 1000 µg/ml concentrations of SOHE were toxic and granulose cells were dead and their nucleus were condensed. The most amount of granulosa cells was in the early stages of apoptosis in 100 µg/ml treated culture. Granulosa cells showed late stage apoptotic signs in 1000 µg/ml concentration. The lower concentration of SOHE (10 and 50 µg/ml) was similar to control culture.

Conclusion: High dose of SOHE was toxic and inhibited granulosa cells bioviability and induced apoptosis in granulosa cells. Therefore, it may show side effects on fertility.

Keywords: Chromatin condensation, Granulosa cells, Salvia officinalis L, Apoptosis

P59: A Simple and Efficient Method for Cryopreservation, Isolation and Long-term Culture of Human Spermatogonial Stem Cells

Faezeh Moraveji [1], Fereshteh Esfandiari [2], Abdolhossein Shahverdi [3], Abdolhossein Shahverdi [4]

1- Department of Stem Cells and Developmental Biology at Cell Science Research Center, Royan Institute for Stem Cell Biology and Technology, ACECR, Tehran, Iran
2- Department of Stem Cells and Developmental Biology at Cell Science Research Center, Royan Institute for Stem Cell Biology and Technology, ACECR, Tehran, Iran. 2Department of Developmental Biology, University of Science and Culture, ACECR, Tehran, Iran
3- Department of Embryology at Reproductive Biomedicine Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran
4- Department of Embryology at Reproductive Biomedicine Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran

Corresponding Author: *Faezeh Moraveji, Department of Stem Cells and Developmental Biology at Cell Science Research Center, Royan Institute for Stem Cell Biology and Technology, ACECR, Tehran, Iran, Email: moraveji_f@yahoo.com*

Background: Spermatogonial stem cells (SSCs) represent a unique cell type that has the capacity for proliferating, differentiating, and transmitting genetic information. This particular cell type is a strong focus of stem cell research, with isolation and maintenance of SSCs as an important issue for future infertility treatments. However, low number of SSCs has been a challenge in this field. Since SSCs need to be preserved for years before reintroduction to the patients' testes, efficient cryopreservation and culture techniques should be developed.

Methods: Briefly, we used H&E, IHC, TUNEL, IF, gene expression and transplantation assays in order to evaluate both our cryopreservation and isolation protocol.

Result: At first, our cryopreservation method was confirmed by H&E, IHC and TUNEL assay. Cultured SSCs were characterized by immunofluorescence for PLZF, SSEA4,GFRα1. Besides, RT-PCR demonstrated strong expression of PLZF, VASA, ITGβ1 and DAZL in isolated SSCs over culture. Moreover, our culture cells could propagate more than 10 passages (4 month). To address the function of cultured cells, we transplanted human SSCs to infertile mouse testis that showed successful homing and colonization of transplanted cells. Our results demonstrated that isolated SSCs from human testes were cultured successfully for long term and proliferation.

Conclusion: In conclusion, we set up a simple and efficient protocol to cryopreservation, isolation and long term culture of human SSCs that express germ cell specific markers. Significantly, cultures of SSCs showed successful homing and colonization following transplantation. This method would be promising for future application of SSCs in advanced infertility treatments.

Keywords: Cryopreservation, Infertility, Long term culture, Transplantation, Spermatogonial stem cells

P60: Establishment of graphene based platforms to support in vitro preimplantation mouse embryos

Sara Hashemi basra [1] , Samaneh Fayazi [2] , Mojtaba Dashtizad [3] , Ehsan Hashemi [4] , Morteza Daliri choupari [5]

1- Animal Biotechnology Deivision,National Institute of Genetic Engineering and Biotechnoloy, Tehran, Iran
2- Animal biotechnology Deivision,National Institute Of Genetic Engineering and Biotechnoloy, P.O BOx 1496-161, Tehran, Iran
3- Animal biotechnology Deivision,National Institute Of Genetic Engineering and Biotechnoloy, P.O BOx 1496-161, Tehran, Iran
4- Animal biotechnology Deivision,National Institute Of Genetic Engineering and Biotechnoloy, P.O BOx 1496-161, Tehran, Iran
5- Animal biotechnology Deivision,National Institute Of Genetic Engineering and Biotechnoloy, P.O BOx 1496-161, Tehran, Iran

Corresponding Author: *Sara Hashemi, sara_marra69@yahoo.com*

Background: The majority of research aimed at improving in vitro development of embryo has focused on manipulation of the chemical environment. However, relatively little work has been done examining the physical requirements of preimplantation embryos and the role culture platforms can play in influencing embryo development. As graphene and its derivatives have been considered attractive candidates for biomedical applications such as scaffolds in tissue engineering, in this study, the effect of graphene oxide (GO) and hydrazine reduced graphene oxide (N2H4-rGO) on preimplantation mouse embryos were tested.

Methods: Go and N2H4-rGO suspension were strewed in two wells of 4-well and dried at 37°C to prepare graphene platforms. 2-cell embryos isolated from 8-10 week NMRI mice were cultured in Potassium Enriched Simplex Optimized Medium (KSOM) media overlaid with mineral oil on graphene platforms and a control group to blastocyst stage. Then, blastocyst formation rate was compared in three groups.

Result: The results showed that the embryos cultured on graphene platforms developed to the blastocyst stage in a significantly higher proportion than embryos in the control group (p

Conclusion: This study indicates that graphene based platforms provide a promising alternative for common method of culturing embryos to blastocyst stage.

Keywords: Blastocyst, Embryos, Physical requirement, Graphene based platforms

P61: The effect of vitrification on sheep isolated primordial follicles and those in the context of ovarian cortical pieces

Samaneh Sadeghnia [1] , Laleh Hosseini [2] , Mohammad Mehdi Naderi [3] , Sara Borjian Boroujeni [4] , Ali Sarvari [5] , Bahareh Behzadi [6] , Mohammad Mehdi Akhondi [7] , Abolfazl Shirazi [8]

1- Reproductive Biotechnology Research Center, Avicenna Research Institute, ACECR, Tehran, Iran
2- Reproductive Biotechnology Research Center, Avicenna Research Institute, ACECR, Tehran, Iran
3- Reproductive Biotechnology Research Center, Avicenna Research Institute, ACECR, Tehran, Iran
4- Reproductive Biotechnology Research Center, Avicenna Research Institute, ACECR, Tehran, Iran
5- Reproductive Biotechnology Research Center, Avicenna Research Institute, ACECR, Tehran, Iran
6- Reproductive Biotechnology Research Center, Avicenna Research Institute, ACECR, Tehran, Iran
7- Reproductive Biotechnology Research Center, Avicenna Research Institute, ACECR, Tehran, Iran
8- Reproductive Biotechnology Research Center, Avicenna Research Institute, ACECR, Tehran, Iran

Corresponding Author: *Samaneh Sadeghnia, 1 Reproductive Biotechnology Research Center, Avicenna Research Institute, ACECR, Tehran, Iran 2 Research Institute of Animal Embryo Technology, Shahrekord University, Shahrekord, Iran, Email: sadeghnia_samaneh@yahoo.com*

Background: In vitro follicle growth is a promising fertility preservation strategy. This study was conducted to compare the growth of isolated follicles and those in the context of ovarian cortical pieces after short term (8 days) culture between fresh and vitrified samples.

Methods: The ovarian cortex was dissected from the medulla and sliced into 0.5 mm3 pieces using a scalpel blade. Two experiments were considered; I) culture of fresh and vitrified-warmed cortical pieces (F-CP and Vit-CP, respectively), and II) culture of fresh and vitrified-warmed encapsulated isolated follicles (F-IF and Vit-IF, respectively). The differences in follicular growth during culture, within groups, were analyzed by ANOVA followed by Tukey test. The difference of follicular growth and viability between fresh and frozen groups were analyzed using T-Test. Values were considered statistically significant when $P < 0.05$. Data were expressed as mean ± SEM.

Result: After culture, the overall viability of different follicles' types in vitrified-warmed cortical pieces was comparable with fresh ones. The viability (%) of vitrified-warmed isolated-encapsulated follicles was lower than fresh counterparts (96.7±3.3 vs 71.7±6). The diameter of fresh encapsulated follicles was higher than vitrified-warmed follicles after culture (47.9±1µm vs 44.6±11µm).

Conclusion: In conclusion, while vitrification of cortical pieces had no significant effect on growth and viability of follicles, the mentioned items were negatively affected by vitrification in isolated-encapsulated follicles.

Keywords: Cortical pieces, Encapsulation, Isolated follicle, Vitrification

P62: The effect of vitrification on expression of β1, β3 integrin in mouse oocyte

Farzad Rajaei [1] , Neda Abedpour [2]

1- Qazvin University of Medical Sciences, Qazvin, Iran
2- Qazvin University of Medical Sciences, Qazvin, Iran.

Corresponding Author: *Farzad Rajaei, Qazvin University of Medical Sciences, Qazvin, Iran, Email: farzadraj@yahoo.co.uk*

Background: The presence of integrins on the oocyte membrane as key molecules in the process of fertilization and resumption of meiosis is essential. Sensitivity of cell membrane to freezing and harmful factors can change the expression of integrins, and finally, any stage of fertilization and pregnancy can be affected. This study aimed to investigate the effect of vitrification on expression of β1, β3 integrin in mouse oocyte.

Methods: In this experimental study, germinal vesicle (GV) and metaphase II (MII) oocytes were obtained from ovaries and fallopian tubes of NMRI mice, respectively, and divided into two control and experimental (vitrified) groups. Oocytes in the experimental group were vitrified by Cryotops using vitrification medium (Origin, Denmark) and were kept in liquid nitrogen for one month. They were then evaluated following the staining with immunohistochemistry and real time. Outcomes were assessed for statistic significance using SPSS software and chi-square test.

Result: The results showed that distribution of β1, β3 integrin in vitrified group is significantly decreased compared to control group. However, the distribution of β1 integrin was increased compared to β3 integrin. It has been also showed that the expression of β1, β3 integrin in vitrified group was significantly decreased compared to control group.

Conclusion: The present study showed that vitrification using Cryotop and freezing medium can damage oocytes by reducing the expression of β1, β3 integrin in both developmental stages.

Keywords: Cryotop, Oocyte, β1, β3 integrin, Vitrification

P63: Effect of Rosa canina on the post-injury recovery of doxorubicin-induced testicular toxicity in mouse testes

Fatemeh Nowrouzi [1] , Mehri Azadbakht [2] , Masoud Modarresi [3] , Eshrat Kalehoie Kalehoie [4]

1- Department of Biology, Faculty of Basic Sciences, Razi University, Kermanshah, Iran
2- Department of Biology, Faculty of Basic Sciences, Razi University, Kermanshah, Iran
3- Department of Pharmacognosy and Pharmaceutiacal biothechnology, School of Pharmacy, Kermanshah University of Medical Sciences
4- Department of Biology, Faculty of Basic Sciences, Razi University, Kermanshah, Iran

Corresponding Author: *Fatemeh Nowrouzi, Department of Biology, Faculty of Basic Sciences, Razi University, Kermanshah, Iran, Email: f.nowrouzi92@gmail.com*

Background: Doxorubicin is one of the most well-known chemotherapeutic agents used for great efficacy in cancer cell killing. However, its clinical use is accompanied by its severe reproductive toxicity especially disturbing male fertility. Application of

antioxidant agent such as Rosa canina extract, with free radical scavenging and hydrogen peroxide scavenging activities, is necessary to increase the treatment efficacy and to reduce toxicity. This study examined the in vivo protective effects of Rosa canina extract against doxorubicin-induced testicular toxicity.

Methods: Male NMRI mice were treated with vehicles, DOX alone (3 mg/kg, i.p. on day 7, 14, 21), R. canina extract alone (100 mg/kg and 200 mg/kg, i.p. for 28 days), R. canina extract plus DOX (each dose given 1 hour post R. canina). Assessment of testicular toxicity was done by recording changes in morphometrical parameters. Data was analyzed using One-Way ANOVA and Duncan test.

Result: Doxorubicin caused histophatologial changes such as germinal epithelial sloughing and vacuoles in the seminiferous tubules. There was significant decrease in the diameter of seminiferous tubular and germinal epithelial thickness. It significantly increased lumen diameter of seminiferous tubules. In contrast, Rosa canina could affect all of these parameters as compared to the control. The combined treatment of Rosa canina with doxorubicin improved the adverse effect of doxorubicin in two doses on testes.

Conclusion: These finding suggest that the R. canina extract has protective role against doxorubicin-induced testicular toxicity in mouse testes and improves testicular histomorphology.

Keywords: Doxorubicin, Mice, Testes, Rosa canina extract

P64: An investigation of in vitro nanoscale vibration on early embryo development in mice

Habib Nikukar [1] , Arezoo Khoradmehr [2] , Batool Sarafraz [3] , Fatemeh Sadeghian-Nodoushan [4] , Behrouz Aflatoonian [5]

1- Stem Cell Biology Research Center, Shahid Sadoughi University of Medical Sciences, Yazd, Iran, Department of Advanced Biomedical Sciences and Technologies, Shahid Sadoughi University of Medical Sciences, Yazd, Iran
2- Research and Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran
3- Stem Cell Biology Research Center, Shahid Sadoughi University of Medical Sciences, Yazd, Iran
4- Stem Cell Biology Research Center, Shahid Sadoughi University of Medical Sciences, Yazd, Iran
5- Stem Cell Biology Research Center, Shahid Sadoughi University of Medical Sciences, Yazd, Iran, Department of Advanced Biomedical Sciences and Technologies, Shahid Sadoughi University of Medical Sciences, Yazd, Iran

Corresponding Author: *Habib Nikukar Stem Cell Biology Research Center, Shahid Sadoughi University of Medical Sciences, Yazd, Iran, Department of Advanced Biomedical Sciences and Technologies, Shahid Sadoughi University of Medical Sciences, Yazd, Iran, email: habibnik@ssu.ac.ir*

Background: Studies have shown that nano-scale mechanical stimulation could change stem cell fate such as increased proliferation rate and induced osteoblastogenesis in endothelial and human mesenchymal stem cells. Also in vitro periodic microvibration has shown an increased implantation rate of human embryo. We investigated whether nanoscale vibration altered embryo development from zygote to blastocyst stage.

Methods: Female mice superovulated by intraperitoneal injection of pMSG and hCG 48-52 hr later. Mice sacrificed according to national institute of health guide for the care and use of laboratory animals and oviducts removed. Ampulla of oviduct was opened and cumulus-oocyte-complexes (COCs) released from within, finally dragged them into drop of GIVF media. Sperm suspension (obtained from cauda epididymidis) added to drop containing COCs. Only two pronucleus (2PN) zygotes, 4-6 hr after insemination were transferred to G1 media. Nanoscale z- axis vibration was applied by a piezo actuator attached to the Petri dishes' base. Constant sine waves with 20 Vpp amplitude and 1 KHz and 3 KHz frequencies have been tested. After 6, 24, 48, 72, 96 and 120 hr embryo morphology was reported and compared to control.

Result: Data shown this method increased 2PN zygotes compared to others and embryo quality improved as well. These data need to be supported by more samples and statistical tests.

Conclusion: It can be postulated that nanoscale vibration could alter IVF outcome but further studies are required to make its exact mechanism more clear.

Keywords: mechanical stimulation, mice embryo, nanoscale vibration

P65: Ginseng effects on DNA fragmentation and mitochondrial activity of human sperm after cryopreservation

Arash Hasirbaf Momtaz [1] , Mansoureh Movahedin [2] , Zohreh Mazaheri [3]

1- Anatomical Sciences Department, Faculty of Medicine, Tarbiat Modares Unversity, Tehran, Iran
2- Anatomical Sciences Department, Faculty of Medicine, Tarbiat Modares Unversity, Tehran, Iran.
3- Anatomical Sciences Department, Faculty of Medicine, Tarbiat Modares Unversity, Tehran, Iran.

Corresponding Author: *Anatomical Sciences Department, Faculty of Medicine, Tarbiat Modares Unversity, Tehran, Iran, email: a.hasirbaf@gmail.com*

Background: Freezing is a common method for assisted reproductive technology, nowadays. Freezing process causes oxidative stress on sperms which is the main reason of sperm disruption. This study designed to assess antioxidant effect of ginseng extract on DNA fragmentation and mitochondrial activity of human sperm after freezing and thawing.

Methods: 25 washed sperm with gradient method were incubated in either ginseng (1 mg/ml), or control medium (HTF + 10% HSA) 45 min after freezing and thawing. DNA fragmentation and mitochondrial activity were measured by Halo sperm and Rodamin 123 staining, respectively. The data were analyzed using T-test to determine the mitochondrial activity and DNA damage after cryopreservation.

Result: Percentage of mitochondrial activity of sperms had a significant difference (P≤0.05) in ginseng group (54.5±1.75 and 76.2±2.2 % for control and ginseng treatments, respectively). Sperm treatment with ginseng decreased DNA fragmentation value significantly (43.5±3.5 and 33.5±3.8 % for control and ginseng treatments, respectively) [P≤0.05].

Conclusion: We found that ginseng extract not only prevents DNA fragmentation but also this compound can protect mitochondrial function.

Keywords: Freezing and thawing, Ginseng, Human sperm, Mitochondrial activity, DNA fragmentation

P66: Ginseng effects on motility and free radical of human sperm after cryopreservation

Arash Hasirbaf Momtaz [1] , Mansoureh Movahedin [2] , Zohreh Mazaheri [3]

1- Anatomical Sciences Department, Faculty of Medicine, Tarbiat Modares University, Tehran, Iran
2- Anatomical Sciences Department, Faculty of Medicine, Tarbiat Modares Unversity, Tehran, Iran.
3- Anatomical Sciences Department, Faculty of Medicine, Tarbiat Modares Unversity, Tehran, Iran.

Corresponding Author: *Anatomical Sciences Department, Faculty of Medicine, Tarbiat Modares Unversity, Tehran, Iran, email: a.hasirbaf@gmail.com*

Background: Nowadays, freezing process is a common tool in assisted reproductive laboratories. Oxidative stress during freezing process is a major factor of sperm defect after this procedure, despite the fact that antioxidant compounds have an effective role on semen freezing techniques. The aim of this study was to evaluate the antioxidant effect of ginseng extract on cryopreserved human sperm parameters.

Methods: 25 washed sperm with gradient method were incubated in either ginseng (1 mg/ml), or control medium (HTF + 10% HSA) 45 min after freezing and thawing. Motility and free radical were measured by CASA(Computer Assisted Sperm Analysis) and DCF-DA staining, respectively. The data were analyzed using T-test to determine the motility and free radical after cryopreservation.

Result: Percentage of motility of sperms had a significant difference (P≤0.05) in ginseng group (50.98±1.34 and 64.43±1.79 % for control and ginseng treatments, respectively). Sperm treatment with ginseng decreased free radical value significantly (14.06±2.08 and 8.7±1.18 % for control and ginseng treatments, respectively) [P≤0.05].

Conclusion: We found that ginseng extract not only prevents free radical but also this compound can protect motility.

Keywords: Freezing and thawing, Ginseng, Human sperm, Motility, Free radical

P67: Different growth rate of human small pre-antral follicles isolated from vitrified ovarian tissue

Laleh Hosseini [1] , Mohammad Mehdi Naderi [2] , Sara Borjian Boroujeni [3] , Ali Sarvari [4] , Samaneh Sadeghnia [5] , Bahareh Behzadi [6] , Mohammad Mehdi Akhondi [7] , Abolfazl Shirazi [8]

1- Reproductive Biotechnology Research Center, Avicenna Research Institute, ACECR, Tehran, Iran 2 Research Institutes of

Animal Embryo Technology, Shahrekord University, Shahrekord, Iran
2- Reproductive Biotechnology Research Center, Avicenna Research Institute, ACECR, Tehran, Iran
3- Reproductive Biotechnology Research Center, Avicenna Research Institute, ACECR, Tehran, Iran
4- Reproductive Biotechnology Research Center, Avicenna Research Institute, ACECR, Tehran, Iran
5- Reproductive Biotechnology Research Center, Avicenna Research Institute, ACECR, Tehran, Iran
6- Reproductive Biotechnology Research Center, Avicenna Research Institute, ACECR, Tehran, Iran
7- Reproductive Biotechnology Research Center, Avicenna Research Institute, ACECR, Tehran, Iran
8- Reproductive Biotechnology Research Center, Avicenna Research Institute, ACECR, Tehran, Iran

Corresponding Author: *Laleh Hosseini, 1 Reproductive Biotechnology Research Center, Avicenna Research Institute, ACECR, Tehran, Iran 2 Research Institutes of Animal Embryo Technology, Shahrekord University, Shahrekord, Iran, Email: hosseniIaleh@ymail.com*

Background: Human primordial/primary follicle isolation and culture offers new perspectives to restore fertility in cancerous patients whose ovarian tissue cannot be transplanted due to the risk of malignant cells transfer. Primordial and primary follicles are the most abundant follicles in ovarian tissue and can withstand cryopreservation better than growing follicles. They are small and the connection between their granulose cells and oocytes are minimal, and whereas they are located in dense extracellular matrix, their isolation and subsequent development is difficult. Although early pre-antral follicle isolation and culture has been achieved in some species, attempts in human have been less successful. The aim of this study was to evaluate the in vitro development of isolated human primordial and primary follicles from vitrified ovarian tissue.

Methods: Small pre-antral follicles were isolated by ovarian tissue enzymatic digestion including collagenase IA and DNase. The isolated follicles were embedded in an alginate matrix and cultured in α-MEM medium supplemented with FSH, ITS, acid ascorbic, penicillin /streptomycin, GDF9 and platelet rich plasma in the presence of ovarian somatic cells.

Result: Small pre-antral follicles isolated from frozen–thawed tissues can survive and develop during in vitro culture. The growth rate of the cultured follicles was different, in a way that the growth of some follicles was negligible, while others showed significant growth. On the other, the initial diameter of follicle had an effect on its subsequent development.

Conclusion: The results indicated that isolated small pre-antral follicles can survive and grow after ovarian tissue cryopreservation, though their growth rate due to their natural characteristics is different.

Keywords: Follicle culture, Follicle isolation, Small preantral follicle, Fertility preservation, Ovarian tissue vitrification

P68: Single dose effect of diazinon on biochemical parameters in testis tissue of adult rats and the protective effect of vitamin E

Fatemeh Rahimi Anbarkeh, Mohhammad reza Nikravesh [1], Mehdi Jalali [2], Hamid Reza Sadeghnia [3], Zinat Sargazi [4], Leila Mohammadzadeh [5]

1- Professor of Anatomy
2- Professor of Anatomy
3- Assistant Professor
4- M.Sc. of anatomy
5- P.hD.

Corresponding Author: *Fatemeh Rahimi Anbarkeh, email: rahimiaf89@yahoo.com*

Background: Diazinon (DZN) is an organophosphate pesticide that is widely used for agricultural pest control all over the world. DZN affects target organs including reproductive system by inhibiting the activity of acetylcholinesterase and inducing oxidative stress. Vitamin E (α-tocopherol) is a strong antioxidant which inhibits free radicals, and probably can reduce lipid perxidation effectively in biological systems.The present study, aimed to evaluate the effects of DZN on malondialdehyde (MDA) and glutathione (GSH) levels in testis of rats and and also the protective effect of vitamin E.

Methods: In this experimental study, thirty adult male Wistar rats (200-250 gr) were divided into 5 groups (n= 6): control group (did not receive any material), sham group (received only pure olive oil), experimental group 1 (DZN, 60 mg/kg), experimental group 2 (Vit E, 200 mg/kg) and experimental group 3 (DZN+Vit E, with the same dose). All groups were sacrificed after 6 weeks and right testis was used to measure the MDA and GSH levels. The amount of MDA was determined by the thiobarbituric acid assay and 5, 5-Dithio-bis (2nitrobenzoic acid). DTNB-recycling protocol was used for GSH assay.

Result: The results showed that DZN increased MDA level (p

Conclusion: DZN induced lipid peroxidation in the testis of rats. Vitamin E by its antioxidant activity was able to improve the toxic effect of DZN.

Keywords: Glutathione, Malondialdehyde, Testis, Vitamin E, Diazinon

P69: The effect of diazinon on cholinesterase activity in plasma and erythrocytes of male and female rats and the potective role of vitamin E

Fatemeh Rahimi Anbarkeh, Mohhammad reza Nikravesh [1], Mehdi Jalali [2], Hamid Reza Sadeghnia [3], Zinat Sargazi [4]

1- Professor of Anatomy
2- Professor of Anatomy
3- Assistant Professor
4- M.Sc. of anatomy

Corresponding Author: *Fatemeh Rahimi Anbarkeh, email: rahimiaf89@yahoo.com*

Background: Diazinon (DZN) is an organophosphate insecticide and one of the mechanisms of toxicity is the inhibition of cholinesterase. The aim of the present study was to evaluate the effects of diazinon on cholinesterase activity in blood serum and erythrocytes of male and female rats and to assess the protective role of vitamin E.

Methods: In this experimental study, 60 adult wistar rats including 30 male and 30 female rats were selected and divided into 5 groups (n = 6): control group (without any intervention), sham group (received only pure olive oil daily), experimental group 1 (DZN daily, 60 mg/kg), experimental group 2 (received DZN+ vitamin E daily, with the same dose) and experimental group 3(received vitamin E daily 200 mg/kg). Diazinon and solvent were injected intraperitoneally and vitamin E was given by gavage. After 2 weeks, 3 ml blood was taken from the heart tissue, and titrimetric and Ellman's method, respectively were used for serum and erythrocyte cholinesterases activity assay.

Result: In both genders, due to administration of diazinon, we observed significant reduction in serum and erythrocytes cholinesterase activity. The use of vitamin E increased serum anderythrocytes cholinesterase activity in experimental group 2 of female rats but inhibition in erythrocyte and serum cholinesterase activity was not recovered in experimental group 2 of male rats.

Conclusion: According to a further reduction of these enzymes activity in female rats with the use of diazinon, it can be concluded that female rats are more sensitive than male rats and it seems that vitamin E as an antioxidants has a protective effect on cholinesterase activity and reduces the toxicity of DZN.

Keywords: Diazinon, Rats, Vitamin E, Cholinesterase

P70: Immunohistochemical Expression of Myeloperoxidase in Placental Samples of Systematic Lupus Erythematosus Pregnancies

Zahra Heidari [1], Hamidreza Mahmoudzadeh-Sagheb [2], Nadia Sheibak [3]

1- Infectious Diseases and Tropical Medicine Research Center, Zahedan University of Medical Sciences, Zahedan, Iran.
2- Department of Histology, School of Medicine, Zahedan University of Medical Sciences Zahedan, Iran.
3- Department of Histology, School of Medicine, Zahedan University of Medical Sciences Zahedan, Iran.

Corresponding Author: *Department of Histology, School of Medicine, Zahedan University of Medical Sciences, Zahedan, Iran, email: nadia1989sh@yahoo.com*

Background: Systematic lupus erythematosus (SLE) is an autoimmune disorder that can lead to maternal and fetal morbidity and mortality by affecting women during pregnancy. Increased level of Myeloperoxidase (MPO) in plasma and placental extract of SLE women were reported. It has been proposed that MPO may have an important role in this pregnancy complication.The aim of this study was to investigate immunohistochemical MPO expression in placental samples of women with SLE compared with normal controls.

Methods: In this study, ten patients with SLE were recruited as case group. Control group was selected among mothers with normal uncomplicated pregnancies. Placenta biopsies were collected after delivery. A monoclonal antibody specific for MPO was used for immunohistochemical tissue staining and

then the staining was quantified and differences between groups were compared by using Mann-Whitney U test. Differences were considered statistically significant at p

Result: There were significant differences in the expression levels of MPO in the syncytiotrophoblast cells and the extravillous trophoblast cells between the control and SLE groups (P0.05).

Conclusion: The present study showed that MPO expression increased in syncytiotrophoblast cells and the extravillous trophoblast cells of SLE placentas compared to healthy subjects. It seemed that these changes are able to affect the survival of the placenta and fetus.

Keywords: Immunohistochemistry, Peroxidase, Placenta, Pregnancy complications, Trophoblasts, Lupus erythematosus

P71: Evaluating the Number of Embryos of Male Rats Exposed to Noise Stress

Asghar Rajabzadeh [1]

1- Department of Anatomical Sciences, Tabriz University of Medical Sciences, Tabriz, Iran.

Corresponding Author: *Asghar Rajabzadeh, Tabriz University of Medical Sciences, Tabriz, Iran, email: da.rajabzadeh@yahoo.com*

Background: Noise stress is one of the hazardous factors in the environment for human and it can have adverse effects on health. Environmental stress such as noise increases apoptosis of germ cells of testicular tissue. Also, noise stress increases the amount of absorbed embryos and reduces the number of embryos to be live. The aim of the present study was to evaluate the effects of noise stress on the fertilization power of male rats after mating and determine the number of live, dead and absorbed fetuses.

Methods: For this purpose, 20 Wistar rats were prepared and randomly divided into control and experimental groups, each group of 10 rats. The rats in the experimental group were exposed to noise stress (90-120 T and 300-350 Hz) for 12 h in 2 months. At the end of the experiment period, male rats in both groups were kept with female of the same stain for breeding. After 19 days and before delivery, female uterus was examined to count and determine the weight of their fetuses.

Result: There were significant differences in dead and absorbed fetuses in experimental group in comparison to the control (p

Conclusion: Statistics obtained in this study indicate the negative effects of noise stress on the fertility of male rats and reduction of the number of live embryos due to environmental factors. Accordingly, it can be concluded that to reduce the risk of noise stress, they should be avoided from sound sources in each age period especially early age.

Keywords: Embryos, Male rats, Noise stress

P72: Role of stearoyl-coA desaturase 1 in estradiol production by human cumulus cells

Shabnam Fayezi [1], Marefat Ghaffari Novin [2], Masoud Darabi [3], Mohsen Norouzian [4], Mohammad Nouri [5], Laya Farzadi [6]

1- Department of Biology and Anatomical Sciences, School of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran
2- Department of Biology and Anatomical Sciences, School of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran. Cellular and Molecular Biology Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
3- Drug Applied Research Center, Tabriz University of Medical Sciences, Tabriz, Iran
4- Department of Biology and Anatomical Sciences, School of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
5- Women's Reproductive Health Research Center, Women University Hospital, Tabriz University of Medical Sciences, Tabriz, Iran.
6- Women's Reproductive Health Research Center, Women University Hospital, Tabriz University of Medical Sciences, Tabriz, Iran.

Corresponding Author: *Department of Biology and Anatomical Sciences, School of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran, email: shfayezi@hotmail.com*

Background: Stearoyl-coA desaturase 1 (SCD1) is expressed in cumulus cells and plays an important role in lipid metabolism. Here, we examined the effect of SCD1 inhibition on fatty acid synthesis and steroidogenesis by cumulus cells.

Methods: Cumulus cells were collected from women undergoing therapeutic in vitro fertilization/intracytoplasmic sperm injection (IVF-ICSI) in the IVF Center at the Women Alzahra Hospital in Tabriz. This study was conducted under the

approval of the local Ethics Committee at Tabriz University of Medical Sciences. Collected cells were cultured in M199 medium containing a range of an SCD1 inhibitor (CAY 10566) between 5-100nM for 48 hours. The cellular fatty acids, estradiol production and aromatase gene expression were analyzed using gas-liquid chromatography, ELISA and quantitative PCR techniques, respectively.

Result: Incubation with SCD1 inhibitor led to significant decrease (1.5- to 3-fold; p

Conclusion: The fatty acid desaturation and steroidogenesis were significantly inhibited by SCD1 inhibitor in a dose-dependent manner. The results suggest that SCD1 activity is required for normal cumulus cell function and may be an important factor involved in female reproductive disorders.

Keywords: Cumulus cells, Lipids, SCD1, Estradiol

P73: The effects of time dependent administration of methylphenidate on the alterations of spermatogenic cells population in Adult Rats

Azad Abdollahzadeh [1] , Davoud Kianifard [2]

1- Veterinary medicine student
2- Doctor of veterinary medicine candidte

Corresponding Author: *Department of Basic Sciences, Faculty of Veterinary Medicine, University of Tabriz, Tabriz, Iran, email: azadabdollahzadeh@yahoo.com*

Background: Methylphenidate, MPH, is one of the most common medications which leads to increase in the activity of central nervous system. MPH may be used for maintaining alertness and improving attention which may lead to increase of the risk of substance abuse in some cases. There is little data about the effects of MPH on the population of germinal epithelium of testicular tissue. This study was designed to investigate the effects of time dependent administration of MPH on the alterations of spermatogenic cells.

Methods: MPH was administrated to adult rats (10 mg/kg/day) for periods of two weeks (short term) and eight weeks (long term). At the end of study, testicular samples were collected and prepared with routine histologic process. Various types of spermatogenic cells were counted under light microscope.

Result: The number of sertoli cells did not change significantly in experimental groups. The number of active spermatogonia was non-significantly reduced in long term treated group in comparison to control and short term groups. The number of spermatocyte and round spermatids was reduced significantly after long term treatment of animals with MPH in comparison to control and short term treated groups. There were no significant changes observed in germinal epithelium following short term administration of MPH.

Conclusion: The findings of this study showed that, the long term administration of methylphenidate may affect the normal fertility through induction of some alterations in population of spermatogenic cells.

Keywords: Spermatogenic cells, Time dependent effects, Methylphenidate

P74: Study of foeniculum vulgare (Fennel) seed extract effects on serum level of oxidative stress in mouse

Nahid Sadeghpour [1] , Alireza Najafpour [2] , Amir Afshin Khaki [3]

1- Department of Anatomical Sciences, Faculty of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran
2- Department of Clinical Sciences, Urmia Branch, Islamic Azad University, Urmia, Iran
3- Women Reproductive Health Research Center, Tabriz University of Medical Sciences, Tabriz, Iran

Corresponding Author: *Department of Anatomical Sciences, Faculty of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran, email: sadeghpour302@gmail.com*

Background: The foeniculum vulgare (FVE), known as fennel, has a long history of herbal uses as both food and medicine. The seed of this plant has been used to promote menstruation, alleviate the symptoms of female climacteric, and increase the number of ovarian follicles. The aim of this study was to evaluate the fennel extract effects on serum level of oxidative stress in female mice.

Methods: Totally, 28 virgin female albino mice were divided into four groups (n = 7). Groups 1 and 2 (experimental groups) received FVE at 100 and at a concentration of 100 and 200 mg/kg for 5 days,

interaperitoneally. Group 3 (negative control) received ethanol and Group 4 (positive control) received normal saline. Animals were scarified at 6th day, and sera were collected and the level of oxidative stress was determination of using total antioxidant status kit.

Result: Data analysis revealed that there is a significant difference in the mean level of serum oxidative stress between four different groups. P value in experimental groups compared to the control group was $P < 0.0001$.

Conclusion: Fennel extract can decrease the serum level of oxidative factors in female mice and it can be introduced as a novel medicine for treatment of infertility.

Keywords: Infertility, Mouse, Oxidative stress, Foeniculum vulgare

P75: The effects of repaglinide on in vitro maturation of mouse oocyte

Eshrat Kalehoie [1], Mehri Azadbakht [2], Fatemeh Nowrouzi [3], Shirin Geravandi [4]

1- Department of Biology, Faculty of Sciences, Razi University, Kermanshah, Iran
2- Department of Biology, faculty of Sciences, Razi University, Kermanshah, Iran
3- Department of Biology, faculty of Sciences, Razi University, Kermanshah, Iran
4- Department of Biology, faculty of Sciences, Razi University, Kermanshah, Iran

Corresponding Author: *Department of Biology, Faculty of Sciences, Razi University, Kermanshah, Iran, email: kalehoei.e2014@yahoo.com*

Background: Oocyte in vitro maturation (IVM) is one of the types assisted reproductive techniques (ART). IVM refers to maturation of immature oocytes after their recovery from follicles cultured in the IVM medium. IVM is influenced by different factors such as calcium signaling. It is demonstrated that an increase in intracellular calcium plays a vital role in meiosis resumption. Repaglinide, an antidiabetic agent in patients with type 2 diabetes, stimulates insulin secretion by blocking K-ATP channels in the pancreatic beta cell membrane. These inhibition leads to depolarization of the cell membrane and increase intracellular calcium concentration by influx of calcium ions through voltage-gated calcium channels. We examined the effects of repaglinide on in vitro maturation of mouse oocytes.

Methods: Immature oocytes were isolated from ovarian 6-8 week- old female NMRI mice mechanically by a 27-gauge needle. Oocyte was cultured in 30µl droplet of T6 medium with different concentrations of repaglinide: control group (non repaglinide R0), and treatment groups with different concentrations of repaglinide including: 5, 10, 100 nM and 1, 10 µM R1, R2, R3, R4, R5; respectively. Chi-square test was used for evaluating differences of oocyte maturation between control and experimental groups.

Result: Oocyte maturation rate after 24 h in treatment groups R2, R3, R4, R5 in comparison to R0 had significant increase ($p \leq 0.05$) and after 48 h in treatment groups R3, R4, R5 in comparison to R0 had significant increase ($p \leq 0.05$).

Conclusion: Repaglinide can be considered as an effective agent for oocyte maturation.

Keywords: In vitro maturation, Mouse, Oocyte, Repaglinide

P76: A comparative study of the effect of metformin, pioglitazone, acarbose and ripaglinide on histomorphology of mouse polycystic ovary

Fariba Noori [1], Mehri Azadbakht [2], Paria Parto [3], Fatemeh Nowrouzi [4]

1- Department of Biology, Faculty of Sciences, Razi University, Kermanshah, Iran
2- Department of Biology, faculty of Sciences, Razi University, Kermanshah, Iran
3- Department of Biology, faculty of Sciences, Razi University, Kermanshah, Iran
4- Department of Biology, faculty of Sciences, Razi University, Kermanshah, Iran

Corresponding Author: *Department of Biology, Faculty of Sciences, Razi University, Kermanshah, Iran, email: Arax_n@yahoo.com*

Background: Polycystic ovary syndrome (PCOS) is the most common endocrine disorder in women of reproductive age and causes infertility. It is often associated with obesity and insulin resistance. Metformin, pioglitazone, acarbose and ripaglinide are used in the treatment of diabetes. We compared the

effects of these four drugs on histomorphology of mouse polycystic ovary.

Methods: Female mice were treated by testosterone enanthate for PCOS induction. After PCOs, mice were treated with metformin (250 mg/kg), pioglitazone (15 mg/kg), ripaglinide (30 µg/kg) for 2 weeks and with acarbose (50 mg/kg) for 30 days. The testosterone alone was considered as the control group. The histological assessment of ovaries were done. Data was analyzed using One-Way ANOVA and Duncan test.

Result: The weight of mice, weight and diameter of ovaries significantly decreased in treatment group compared to control group. There were no significant changes in germinal epithelium, tunica albuginea and hyperthecosis between all groups. In metformin and pioglitazone group, the number of degenerated oocytes, pyknotic granulosa cells and vascularization decreased and luteinization can be seen only in these groups. The mean growth of primordial, primary, pre-antral, cyst and atretic follicle significantly decreased in treatment group. However, the mean number of pri-antral significantly increased. The average number of antral follicles significantly increased in metformin and pioglitazone groups.

Conclusion: Metformin and pioglitazone have the same effect on compensating the damages due to PCOs and improve the development of follicular growth. Ripaglinide can compensate the damages in some deals, whereas despite these effects, acarbose has a negative impression on follicular growth.

Keywords: Acarbose, Metformin, Mouse, Pioglitazone, Ripaglinide, Polycystic ovary syndrome

P77: The comparison of the effects of dill (Anethum graveolens L.) hydro-alcoholic and aqueous extracts on in vitro maturation of immature mice oocytes

Samaneh Nikeghbal [1] , Malihezaman Monsefi [2]

1- Biology Department, College of Sciences, Shiraz University, Shiraz, Iran
2- Biology Department, College of Sciences, Shiraz University, Shiraz, Iran

Corresponding Author: *Samaneh Nikeghbal , Malihezaman Monsefi Biology Department, College of Sciences, Shiraz University, Shiraz, Iran, email: biologiest68@yahoo.com*

Background: Herbal drugs showed fewer side effects than synthetic drugs. Some adverse effects remain until late in life and even in some cases transfer to the next generation. Therefore, the research on the effect of medicinal plants on reproductive system has important role. The property of dill seed extract for treatment of infertility has been reported in our previous research and therefore, at present, the effects of Anethum graveolens L. aqueous and hydro-alcoholic extracts on cultured immature oocytes were examined.

Methods: The oocytes were obtained from 27-29 day immature mice that were superovulated by PMSG and HCG 62 , 15 hours before dissection. The oocytes were cultured in petri dish containing 30 µl drops of 0, 10, 50, 100, 500, 1000, 10000 µg/ml concentrations of aqueous extract and 0, 10,50, 100, 500, 1000, 10000, 15000, 20000, 30000 µg/ml concentrations of hydro-alcoholic extract of dill at 37 ˚C and 5% CO2. Oocytes were examined every 24 hours by light microscope and different phases of maturation including germinal vesicle (GV), meiosis I and II (MI and MII) were determined by aceto-orcein staining. The bioviability of oocyte was examined by trypan blue staining. The data were analyzed by One-way ANOVA at significant level of P

Result: The results showed that 10000 µg/ml concentration of aqueous extract and 20000 and 30000 µg/ml concentrations of hydro-alcoholic extract were toxic. The lower concentrations (10, 50 and 100 µg/ml) were the same as control culture and did not have any side effects on the oocyte maturation. In concentrations of 500 and 1000 µg/ml of dill aqueous extract, the maturation and bioviability of oocytes decreased significantly.

Conclusion: Hydro-alcoholic extract of Anethum graveolens L. showed fewer effects on oocyte maturation than aqueous extract. Therefore, it was concluded that dill aqueous extract inhibited oocyte maturation effectively.

Keywords: Cell bioviability, Cell culture, Oocyte maturation, Anethum graveolens L.

P78: Dose the impact of nano-curcumin depend on clinical sperm parameters?

Sana Moshari [1] , Vahid Nejati [2] , Gholamreza Najafi [3] , Mazdak Razi [4]

1- Department of Biology, Faculty of Basic Science, Urmia University, Urmia, Iran
2- Department of Biology, Faculty of Basic Science, Urmia University, Urmia, Iran
3- Department of Anatomy, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
4- Department of Comparative Histology & Embryology, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran

Corresponding Author: *Department of Biology, Faculty of Basic Sciences, Urmia University, Urmia, Iran, email: sana.moshari@yahoo.com*

Background: Hydrophobic/nanoparticles of curcumin have been used for various medical approaches. However, there are increasing reports illustrating the cytotoxic impact of this agent on mammalian cells. Therefore, the present study was done in order to estimate the dose dependent effect of nano-curcumin (NC) on sperm parameters of rats.

Methods: The animals were divided into 4 control (with no treatment) and test groups. The animals in test group were subdivided into 3 groups as; low dose NC-received (7.5 mg/kg b.W.-1), medium dose NC-received (15 mg/kg b.W.-1) and high dose NC-received (30 mg/kg b.W.-1) . All animals received chemicals for 48 days. Sperm count, motility, viability, chromatin condensation and DNA damage were assessed.

Result: Observations revealed no significant changes in sperm count in NC-received groups versus control animals. Meanwhile, the animals in NC-received groups represented a significant (P

Conclusion: In conclusion, our data showed that NC-induced cytotoxic impact in male rats (especially on sperm parameters) mainly depends on the dose of administration. Accordingly, the animals in high dose NC-received groups showed the lowest quality for sperm parameters. Moreover, we showed that even 7.5 mg/kg of the NC can induce adverse effect at sperm level.

Keywords: Sperm count, Sperm DNA damage, Sperm motility, Sperm viability, Nano-curcumin

P79: Effects of hydralazine on doxorubicin-induced testicular toxicity in mice

Negar Asadollahi [1]

1- Department of Biology, Faculty of Sciences, Razi University, Kermanshah, Iran

Corresponding Author: *Department of Biology, Faculty of Sciences, Razi University, Kermanshah, Iran, email: negsina92@gmail.com*

Background: Application of doxorubicin, an anticancer anthracycline antibiotic, carries the risk of toxicity to non-target tissues such as male reproductive system and even may cause infertility. The aim of this study was to investigate whether doxorubicin -induced testes toxicity could be prevented by using the hydralazine.

Methods: Adult NMRI mice were divided into four treatment groups (n=8). Control (i.p injection normal saline), doxorubicin (i.p injection of doxorubicin at the dose of 3mg/kg on days 7, 14 and 21), hydralazine (i.p injection of 5mg/kg hydralazine for 21days), hydralazine-doxorubicin (i.p injection hydralazine starting 7 days before the first application of doxorubicin and continued for 21 days and doxorubicin injection on days 7,14,21 and each dose of doxorubicin given 1 hour post hydralazine). Then, animals were sacrificed by cervical dislocation 28 days after first treatment and testicular toxicity was evaluated by histological analyses. Data was analyzed using One-Way ANOVA and Duncan test (version 20.SPSS Inc. United States).

Result: Histological assessments in DOX-treated mouse displayed germinal epithelial sloughing and vacuoles in the seminiferous tubules in mice testes. Also, there was significant decrease in the number of spermatogonia, primary spermatocyte, spermatid and sertoli cells. In morphometric assessment, the diameter of seminiferous tubular and germinal epithelial thickness significantly decreased. In contrast, hydralazine could affect nearly all of these parameters as compared to the control group and the combined treatment of hydralazine with doxorubicin improved the all adverse effect of doxorubicin on testes.

Conclusion: The results suggest that hydralazine has the potential in preventing the testicular toxicity induced by doxorubicin.

Keywords: Chemotherapy, Hydralazine, Mice, Testes, Doxorubicin

P80: Bilateral epididymal white adipose tissue lipectomy induces reproductive malfunction in mice: spermatological evidence

Farhad Mohammadi [1], Ali Shalizar Jalali [2], Gholamreza Najafi [3], Mehdi Behfar [4]

1- Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
2- Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
3- Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
4- Department of Surgery and Diagnostic Imaging, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran

Corresponding Author: *Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran, email: yasinmohammadi1362@gmail.com*

Background: Unlike human and non-human females, the precise roles of energy availability or reserves in male reproductive functions have not been investigated in depth. The objective of this study was to evaluate the effects of bilateral epididymal white adipose tissue lipectomy (EWATx) on sperm parameters and apoptosis in adult mice.

Methods: Adult male mice were divided into three groups (n = 6 animals per group). Following anaesthesia, one group of mice received EWATx through careful removal of epididymal white adipose tissue pads without damaging the testicular blood supply or nerves. Sham surgery in control-sham mice consisted of visualization of the pads without isolation/removal. Control animals only received ceftriaxone (100 mg/kg) intraperitoneally at the day of surgical procedures in other groups. Spermatological analyses were conducted after five weeks.

Result: EWATx significantly decreased epididymal sperm count, motility and viability. Moreover, sperm cell apoptosis increased significantly after EWATx.

Conclusion: These findings provide novel insight into the essential role of epididymal white adipose tissue in male reproductive functions.

Keywords: Apoptosis, Epididymis, Mice, Sperm, Lipectomy

P81: Induction of superovulation using anestrus dog serum in rats and mice

Asghar Mogheiseh [1], Hanieh Vaseghi [2], Mojtaba Kafi [3], Masoud Sepehrimanesh [4], Mohamad Ayaseh [5]

1- Department of Clinical Studies, School of Veterinary Medicine, Shiraz University
2- Department of Clinical Studies, School of Veterinary Medicine, Shiraz University
3- Department of Clinical Studies, School of Veterinary Medicine, Shiraz University
4- Shiraz University of Medical Sciences, Shiraz, Iran
5- Department of Clinical Studies, School of Veterinary Medicine, Shiraz University

Corresponding Author: *Department of Clinical Sciences, School of Veterinary Medicine, Shiraz University, Shiraz, Iran, email: mogheiseh@yahoo.com*

Background: Various hormones have been used to induce superovulation in laboratory animals. Due to ovarian inactivity and the loss of negative feedback of estrogen and progesterone, serum of anestrous dogs contains large amounts of follicle stimulating hormone (FSH). We hypothesized that serum of anestrous dogs could be a potential source of FSH to stimulate follicular growth and induce superovulation.

Methods: In this study, rats at diestrus phase were aligned in group PMSG (n=10, 30 IU PMSG, 48 hours later, 25 IU hCG), group rFSH (n=10, for 48 hours, once every 12 hours by reducing dose of 5, 4, 3, 2 and 1 unit rFSH, and followed by 25 IU of hCG) and group anestrous dog serum (n=10, for 48 hours, once every 12 hours by reducing dose of 0.6, 0.4, 0.3, 0.2 and 0.1 ml followed by 25 IU of hCG). Mice were aligned in three groups: PMSG (n=10, at 13 pm, 5 IU of PMSG followed by 48 h, 5 IUof hCG), rFSH group (n=10, from 13pm, for 48 hours, once every 12 hours by reducing dose of 2.5, 2, 1.5 , 1 and 0.5 IU of rFSH, and 5 IU hCG with the last injection) and anestrous dog serum (from 13pm, for 48 hours every 12 hours by reducing dose of 0.1, 0.075, 0.05, 0.03 and 0.025 ml, 5 IU hCG with the last injection). Immediately after hCG injections, mice and rats were placed with males at a ratio of 1 to 1 for 24 h. On day 14 after mating, animals were killed by cervical dislocation and ovarian samples were fixed in buffered formalin 10% for histopathological study and corpus luteum counting. Data were subjected to Gaphpad Prism 6 software and analyzed with One way ANOVA and Turkey's multiple comparison tests. The level of significant differences were considered at P

Result: In rats, there were significant differences among PMSG (29.30±3.10), dog serum (17.40±1.64)

and rFSH (19.60±1.39) groups (P= 0.001) and between rFSH and dog serum groups (P= 0.0007). In mice, there was significant difference among rFSH (24.5±3.69), dog serum (10.65±1.13) and PMSG (18.70±1.97) groups (P= 0.001) and between rFSH and dog serum groups (P= 0.0007).

Conclusion: Our results showed that serum of anestrous dogs could not induce superovulation responses comparing with PMSG and rFSH.

Keywords: Anestrous dog, Mice, PMSG, Rat, rFSH, Superovulation

P82: Oocyte qualify assay of mice treated (salvia officinalis) with hydro- alcoholic extract

Zeynab Alinejad [1]

1- Biology Department, College of Sciences, Shiraz University, Shiraz

Corresponding Author: *Biology Department, College of Sciences, Shiraz University, Shiraz, email: z.alineghad138@gmail.com*

Background: Medicinal plants are the one of major sources of drug production that human has been used for many years and now their importance has increased.

Methods: At present study, the effects of salvia officinalis hydroalcoholic extract on maturation quality of cultured oocytes of immature mice were examined. A total of 800 oocytes were obtained from 27-28 day immature mice that superovulated by PMSG 64 h and HCG 16 h before dissection, respectively. Oocytes were cultured in concentrations of 0, 5, 10, 50, 100, 250, 500 and 1000 µg/ml of hydroalcoholic extract of salvia officinalis for 48 h in 37°C and 5٪ CO2. Oocytes were examined after 24 h under light microscope and then were stained by aceto-orcein after 48 h and number of oocytes in GV (germinal stage), MII (MetaphaseII) and GVBD (germinal vesicle break down) stages were counted. Bioviability of oocytes were examined after trypan blue staining. Data were analyzed by one-way ANAVA at significant level of P

Result: The results showed that 5 and 10 µg/ml concentrations of extract did not show any side effect on oocytes growth but 500 and 1000 µg/ml concentrations were toxic and blocked oocytes maturation.

Conclusion: Further investigations are needed to understand the properties of this herb on infertility and cancer in in-vivo condition.

Keywords: Cell bioviability, Cell culture, Oocyte maturation, Salvia officinalis

P83: Effect of nano-curcumin on ovarian antioxidant status in synchronized rats

Moona Roshanfekr Rad [1] , Vahid Nejati [2] , Mazdak Razi [3] , GholamReza Najafi [4]

1- Department of Biology, Faculty of Basic Sciences, Urmia university, Urmia, Iran
2- Department of biology, Faculty of basic science, Urmia university, Urmia, Iran
3- Department of comparative Histology & Embryology,Faculty of veterinary,Urmia university,Urmia,Iran
4- Department of Anatomy,faculty of veterinary,Urmia university,Urmia,Iran

Corresponding Author: *Department of Biology, Faculty of Basic Sciences, Urmia University, Urmia, Iran, email: m28.roshan@gmail.com*

Background: Nano-curcumin (NC) is widely used in different medical and pharmacologic approaches. Due to widespread administration of different pharmacological forms of NC, the side effects and/or its beneficial impact on reproductive system have high importance. Therefore, present study was performed in order to analyze the effect of NC on ovarian antioxidant status.

Methods: 24 mature female rats were assigned into control and test groups. The animals in test group were divided into 7.5 mg/kg b.w-1, 15 mg/kg b.w-1 and 30 mg/kg b.w-1 NC-received groups. The NC was administrated orally by gavage for 48 days. After 48 days, the animals at ovulation stage were selected by using pap-smear and estimating serum levels of progesterone and estrogen. Ovarian samples were dissected out and after homogenization, the tissue total antioxidant capacity (TAC) level and malondialdehyde (MDA) content were assessed.

Result: All animals in same groups showed same ranges for serum levels of estrogen and progesterone. Biochemical analyses showed that NC at dose level of 7.5 mg/kg b.w-1 exhibited beneficial effect.

Accordingly, 7.5 mg/kg b.w-1 from NC resulted in a significant (P

Conclusion: Our data showed that NC at dose level of 7.5 mg/kg b.w-1 promotes ovarian antioxidant status, while it exerts detrimental impact at higher doses of 15 mg/kg b.w-1 and 30 mg/kg b.w-1.

Keywords: Malondialdehyde, Ovary, Total antioxidant capacity, Nano-curcumin

P84: Protection against pentylenetetrazol-induced spermatotoxicity effects by melissa officinalis in kindling male rats

Solmaz Danai [1] , Farah Farokhi [2]

1- Department of Biology,Faculty of Sciences, Urmia University, Urmia, Iran
2- Department of Biology,Faculty of Science, Urmia University, Urmia, Iran

Corresponding Author: *Department of Biology,Faculty of Science, Urmia University, Urmia, Iran, email: solmazdanai@yahoo.com*

Background: Kindling is a chronic animal model of epilepsy, can be induced by pentylenetetrazol (PTZ), has been extensively studied to understand the process of epileptogenesis and discovering novel anti-epileptic compounds. Melissa Officinalis (MO) is a traditional herb that induces calmness and improves cognition. Current study was undertaken to investigate the potential of MO hydro-alcoholic extraction (HEMO) as an antioxidant to mitigate PTZ -induced spermatotoxicity.

Methods: In this research, 24 Wister male rats were randomly divided into 4 groups of 6 animals each. Normal control group received normal saline. All animals in test group were exposed to PTZ by administrating 40mg/kg PTZ, every 48 hours for 9 days by IP injection. Then PTZ was administrated at dose of 60 mg/kg for final day. All the treatment groups were seizure. One of the groups, epileptic group received normal saline. The other epileptic groups received HEMO at doses of 200, 100 mg/kg. At the end of treatment (4 weeks), the animals were euthanized and epididymal sperm characteristics were evaluated.

Result: Sperm count and viability were significantly decreased by PTZ treatment. Moreover, PTZ -treated group showed significant increases in DNA damage, and proportion of spermatozoa with cytoplasmic droplet. Notably, aforementioned parameters were improved to near normal level by HEMO co-administration.

Conclusion: These results suggest that HEMO has a protective action against PTZ –induced spermatotoxicity in a rat model.

Keywords: Pentylenetetrazol, Rat, Sperm, Spermatotoxicity, Melissa officinalis

P85: Study the effect of hydroalcohlic extraction of aloe vera on the rate of sex hormones in female rats

Leila Zinatifar [1] , Farah Farokhi [2]

1- Department of Bology, Faculty of Basic Sciences, Urmia University, Urmia, Iran
2- Department of biology, faculty of basic science, urmia university, urmia, iran

Corresponding Author: *Department of Bology, Faculty of Basic Sciences, Urmia University, Urmia, Iran, email: zinaty.leyla@gmail.com*

Background: Aloe vera with phytoestrogens compounds could affect the sex hormones. In this research, the effect of hydroalcohlic aloe vera extraction (HAE) was investigated on the sex hormones in female rats.

Methods: In this study, 18 female rats were randomly divided into three groups of six rats each. Control groups received normal saline. Treatment groups received 100, 200 mg /kg HAE daily by gavages for 4 consecutive weeks. At the end, blood samples were drawn from heart and sex hormones were measured in serum with Elisa reader.

Result: The result of this research showed that estrogen concentration significantly increased, while progesterone concentration was not different in experimental groups compared to control group.Level of testosterone in experimental groups that received 200 mg /kg HAE significantly increased.

Conclusion: It can be supposed that HAE inhibited the production of progesterone and with complex steroid hormone effects predicted by its interaction with progesterone could prevent ovulation and act as an

herbal contraceptive with fewer side effects, while high dose of HAE has adverse effect on sex hormones.

Keywords: Female rats, Sex hormones, Aloe vera

P86: Study the effect of Hydroalcohlic extraction of Aloevera on the ovarian lipid peroxidation in female rat

Leila Zinatifar [1] , Farah Farokhi [2]

1- Department of Bology, Faculty of Basic Sciences, Urmia University, Urmia, Iran
2- Department of biology, faculty of basic science, urmia university, urmia, iran

Corresponding Author: *Department of Bology, Faculty of Basic Sciences, Urmia University, Urmia, Iran, email: zinaty.leyla@gmail.com*

Background: The most important and harmful effect of free radicals is lipid peroxidation in the cell, which causes reduction in the membrane potential and thus cell injury. Malondialdehyde (MDA) is one of the end products of lipid peroxidation. Aloe vera has significant antioxidant properties.The aim of this study was to evaluate the effect of hydroalcohlic aloe vera extraction (HAE) on oxidative stress in female rat reproductive tissue.

Methods: In this study, 18 female rats were randomly divided into three groups of six rats each. Control groups received normal saline.Treatment groups received 100, 200 mg /kg HAE daily by gavages for 4 consecutive weeks. At the end, the ovary was removed and homogenized then the concentrations of ovarian lipid peroxidation were determined by estimating Malondialdehyde using the thiobarbituric acid test with spectrophotometer.

Result: The result of this research showed that level of MDA in experimental groups treated With (HAE) decreased.

Conclusion: Based on the findings of present study, Aloe vera with Anti –oxidant compounds such asphenolic and saponins could reduce lipid peroxidation products such as MDA.

Keywords: MDA, Ovary, Rat, Aloe vera

P87: Mean serum adiponectin concentrations following central injection of dopamine sulfate in male rats

Azizeh Sadeghzadeh, Homayoun Khazali [1] , Abolfazl Bayrami [2] , Fariba Mahmoudi [3] , Asadollah Asadi [4]

1- Faculty of Shahid Beheshti University
2- Faculty of Mohaghegh ardabili University
3- Faculty of Mohaghegh ardabili University
4- Faculty of Mohaghegh ardabili University

Corresponding Author: *Abolfazl Bayrami, University of Mohaghegh Ardabili, Ardabil, Iran, email: azizeh.sadeghzadeh90@gmail.com*

Background: Dopaminergic pathways exert inhibitory effects on reproductive axis. Adiponectin is an adipose derived hormone which decreases GnRH/ LH hormones releases following testosteron secretions. The goal of the present study was to investigate the effects of central injections of dopamie on mean serum adiponectin concentrations.

Methods: Twenty Wistar male rats weighing 220-250g in four groups(n=5 in each group) received saline or dopamine sulfate(5, 15 or 45µg) via third cerebral ventricle. Blood samples were collected via tail vein. Mean serum adiponectin concentrations were determined by ELISA method. The data were analyzed by one- way ANOVA followed by post hoc Tukey test.

Result: Different doses of dopamine sulfate may cause a significant increase on mean serum adiponectin concentrations compared to saline.

Conclusion: Dopaminergic pathways may exert inhibitory effects on the reproductive axis activity partly via regulating adiponectin secretion.

Keywords: Adiponectin, Male rats, Third cerebral ventricle, Kisspeptin

P88: Dose tert-butyl hydroquinone improve bull semen cryopreservation?

Sayed Mohammad Hadi Hussaini [1] , Ahmad Zare Shahneh [2] , Mahdi Zhandi [3] , Mohsen Sharafi [4]

1- Department of Animal Science, College of Agriculture and Natural Resources, University of Tehran, Karaj, Iran
2- Department of Animal Science, College of Agriculture and

Natural Resources, University of Tehran, Karaj, Iran
3- Department of Animal Science, College of Agriculture and Natural Resources, University of Tehran, Karaj, Iran
4- Department of Poultry Sciences, Faculty of Agriculture, Tarbiat Modares University, Tehran, Iran

Corresponding Author: *Department of Animal Science, College of Agriculture and Natural Resources, University of Tehran, Karaj, Iran, email: hosseini.sayyed@yahoo.com*

Background: It has been suggested that sperm quality is decreased during cryopreservation due to some detrimental factors especially oxidative stress. Several studies have shown beneficial effects of antioxidants on sperm quality after freeze-thawing process. The goal of this study was evaluation of Tert-butyl hydroquinone's (tBHQ), a phenolic synthetic antioxidant, effect on bull sperm quality during cryopreservation.

Methods: During this study, a total of 24 ejaculates were collected from four Holstein bulls (4 ejaculates/day) using artificial vagina twice a week. In each collection day, ejaculates were pooled and divided to four equal parts. Each part was diluted with Optidyl® extender containing different levels of tBHQ [zero (T0), 2.5 (T2.5), 5 (T5), and 7.5 (T7.5) µM of tBHQ] and was frozen. After thawing, sperm total and progressive motility, plasma membrane integrity and functionality, status of apoptosis and mitochondrial activity were assessed.

Result: The result showed that total motility was significantly higher in T5 compared to T0, T2.5, T7.5 groups. Progressive motility was not affected by tBHQ levels. All extenders containing tBHQ resulted in significantly higher percentage of sperm with functional membrane compared to T0 and no significant difference was observed among tBHQ levels. Also, sperm plasma membrane integrity was significantly higher in T5 compared to T0 and T2.5 groups. The apoptosis status and mitochondrial activity of sperm were not affected by tBHQ treatment.

Conclusion: In conclusion, it seems that adding 5 µM tBHQ to the bull semen extender may be beneficial for post-thawed bull sperm quality but further studies are needed.

Keywords: Bovine, Freezing, Sperm, Antioxidant

P89: Protective effects of vitamin E on histomorphometrical structure, RI, SI and TDI indexes of testes in rats exposed to lead

Hamid Reza Moradi [1], Hassan Morovvati [2], Masoud Adibmoradi [3], Mohammad Taghi Sheybani [4], Jamileh Salar Amoli [5]

1- Division of Histology Department of Basic Science, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran
2- Division of Histology Department of Basic Science, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran
3- Division of Histology Department of Basic Science, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran
4- Division of Histology Department of Basic Science, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran
5- Division of toxicology Department of Basic Science, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran

Corresponding Author: *Division of Histology Department of Basic Science, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran, email: hmoradi20@yahoo.com*

Background: Vitamins are essential to maintain normal metabolic processes and homeostasis in the body. The small molecule antioxidants, such as vitamin E (VE) (α-tocopherol) are able to interact with oxidizing radicals directly. Many studies have shown that genital toxicity is a dominant characteristic of lead toxicity, including destruction of spermatogenesis and spermiogenesis in testis. The aims of this study included studying protective roles of vitamin E against tissue damages and oxidative stress induced by lead in the testis of rats.

Methods: Fifteen rats were divided randomly into three group: control group received 1 ml/kg/day of normal saline, lead group received 20 mg/kg/day of lead acetate and VE group received 100 mg/kg/day of vitamin E with 20 mg/kg/day of lead acetate. After 35 days, rats were sacrificed and blood, and testicle tissue samples were collected for serum testosterone and histomorphological studies, respectively.

Result: Results showed a significant decrease in tubular differentiation index (TDI), spermiogenesis index (SI) and diameter of seminiferous tubules in lead group, compared to that in control group ($P < 0.05$). Sertoli cells showed a significant increase in VE group, compared to that in lead and control groups ($P < 0.05$). Serum testosterone results showed an insignificant increase in VE group, compared to that in lead. Furthermore, serum testosterone showed a

significant decrease in lead group, compared to that in control group ($P < 0.05$).

Conclusion: Results of the current study show that oral consumption of vitamin E includes an inhibitory effect on oxidative stress in testicular tissues in rats exposed to lead.

Keywords: Histomorphometrical, Lead, Rat, Testis, Vitamin E

P90: Histomorphometrical and histochemical changes of rat's testes following the oral administration of wheat sprout extract

Hassan Morovvati [1] , Hamid Reza Moradi [2] , Masoud Adibmoradi [3] , Mohammad Taghi Sheybani [4] , Jamileh Salar Amoli Salar Amoli [5]

1- Division of Histology Department of Basic Sciences, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran
2- Division of Histology Department of Basic Science, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran
3- Division of Histology Department of Basic Science, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran
4- Division of Histology Department of Basic Science, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran
5- Division of Toxicology Department of Basic Science, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran

Corresponding Author: *Division of Histology Department of Basic Science, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran, email: hmorovvati@ut.ac.ir*

Background: Wheat sprout includes a long background in Iranian culture. Wheat sprout is a healthy food which contains high nutritional values, mostly produced by Triticum aestivum. Medical properties of wheat sprout have previously been shown, including anti-hyperglycemia, antidiabetics, anticancer and antimutagenicity in vivo. This study investigated the effects of wheat sprout extract (WSE) on histomorphometrical structure of testes in rats.

Methods: Fifteen rats were divided randomly into three groups: G1 (control group) received 1 ml/kg/day of normal saline, G2 and G3 received 100 mg/kg/day and 200 mg/kg/day of (WSE) respectively. After 35 days, formalin fixed testes were processed using standard histological method. Paraffin blocks were sectioned at 5–6 µm and stained with hematoxylin and eosin (H&E), periodic acid Schiff (PAS), alkaline phosphatase (ALP) and Sudan black.

Result: Histomorphological studies showed a significant increase in epithelium height of seminiferous tubules, number of Sertoli and Leydig cells in groups receiving WSE (100 or 200 mg/kg/day) compared to that in control group ($P < 0.001$). Dose dependent WSE caused increased reaction to Sudan black in Leydig cells and cells adjacent to lumen of seminiferous tubules. ALP and PAS staining showed an insignificant change in histochemical of testes, the same as control group.

Conclusion: In summary, dose dependent WSE showed improvement and unity in testicular tissue structure and increased active seminiferous tubules significantly.

Keywords: Histochemical, Histomorphometrical, Rat, Testis, Wheat sprout extract

P91: The effect of alpha lipoic acid supplementation on in vitro maturation and apoptotic gene expression of preantral follicles isolated from vitrified ovaries

Tahereh Mazoochi [1] , Mohammad Ehteram [2] , Alireza Shafiei [3]

1- Gametogenese Research Center, Kashan University of Medical Sciences, Kashan, Iran
2- Shahid Beheshti University of Medical Sciences, Tehran, I.R.Iran
3- Anatomical Science Research Center,Kashan University of Medical Sciences, Kashan, I.R. Iran.

Corresponding Author: *Gametogenese Research Center, Kashan University of Medical Sciences, Kashan, Iran, email: mazoochi45@yahoo.com*

Background: Ovarian cryopreservation is necessary for young patients with many types of cancer. The purpose of this study was to determine the influence of alpha lipoic acid (ALA) on the morphology, viability and apoptotic gene expression of mouse preantral follicles isolated from vitrified ovaries during culturing.

Methods: In this experimental study, preantral follicles 130- 150 µm in diameter were mechanically isolated from vitrified and non vitrified immature mouse (NMRI) ovaries and cultured in α-MEM supplemented with or without ALA in vitro for 10 days. Expression of p53, survival rate, diameter of follicle and number of antral follicles were compared

in four groups; non vitrified and non ALA (NVNA), non vitrified and ALA (NVA), vitrified and non ALA (VNA), vitrified and ALA (VA).

Result: In the all of groups, the mean follicle diameter increased during the culture period. There were significant differences between the mean diameter of follicles in non vitrified groups and VA group on day 2 and 4 of culture (p=0.011 and p=0.001, respectively). The addition of ALA increased antral formation and survival rate in vitrified and nonvitrified group (p=0.001). There were no significant differences in the level p53 mRNA between different groups.

Conclusion: Adding ALA to culture medium of preantral follicle isolated from vitrified and non vitrified ovary influences morphology and viability but not the level p53 mRNA expression during in vitro culturing.

Keywords: Alpha lipoic acid, Culture, Gene expression, Ovary, Vitrification

P92: Involvement of the up-regulated caspase-3 Expression in ovarian damage induced by ruta graveolens L. aqueous extract in mice

Naeimeh Simaei [1] , Mohammad Hussein Alavi [2] , Gholamreza Najafi [3] , Ali Shalizar Jalali [4] , Aram Minas Reyhanabad [5]

1- Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
2- Department of Clinical Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
3- Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
4- Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
5- Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran

Corresponding Author: *Department of Basic Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran, email: aram.minas.reyhanabad@gmail.com*

Background: Ruta graveolens L., an evergreen shrub from Rutaceae family commonly known as Sodab in Iran, is consumed as a contraceptive agent in females and males. In this study, we sought to determine whether Ruta graveolens L. aqueous extract (RGE) induces alterations in caspase-3 expression at mRNA and protein levels in mouse ovarian tissue.

Methods: Adult female mice were allocated into two equal groups, serving as control group and RGE-treated group. RGE was given to the mice at a dose of 300 mg/kg per day orally for 21 days. Twenty-one days after the last treatment, mRNA and protein expressions of caspase-3 were assessed by reverse transcription polymerase chain reaction (RT-PCR) and immunohistochemical analyses, respectively.

Result: RGE treatment in mice resulted in significant elevations in mRNA and protein expressions of caspase-3.

Conclusion: Our results revealed that ingestion of RGE causes ovariotoxicity in mice via triggering apoptosis.

Keywords: Apoptosis, Caspase, Mice, Ovary, Ruta graveolens

P93: Effects of aqueous extract of rosmarinus officinalis on oogenesis Balb/C female mouse

Samira Rostami [1] , Parvin Torabzadeh [2] , Mina Ramezani [3]

1- Department of Developmental Biology, Karaj Branch, Islamic Azad University, Karaj, Iran
2- Department of Developmental Biology, Karaj Branch, Islamic Azad University, karaj, Iran.
3- Developmental Biology, Tehran Branch, Islamic Azad University, Tehran, Iran.

Corresponding Author: *Parvin Torabzadeh p.torabzadeh@gmail.com Department of Developmental Biology, Karaj Branch, Islamic Azad University, Karaj, Iran*

Background: Rosmarinus officinalis is used for patients with anxiety, migraine, anorexia, emphysema, and women diseases for 5000 years. But many studies on the negative effects have not been reviewed.The main aim of this study was to evaluate the effects of aqueous extract of rosmarinus officinalis on oogenesis Balb/C female mouse.

Methods: In this study, 50 mice were randomly divided into 5 equal groups of control group (non-injection) and witness (injection of saline) and 3 experimental groups. A lethaldose LD50 was determined in condition of 50.06 mg/kg.bw in vivo and selected dose for injection 8,16,24 mg/kg.bw. Injection was done on 11 days by enema. Then one day after the last injection, the mice were weighed and were dissected. Their serum were prepared, and their

uterus, ovary and oviduct were brought out. For security of results above experiences were repeated three times. Data was checked with SPSS22 software and Tukey and ANOVA test.

Result: In microscopic study, a significant increase (P

Conclusion: According to the results of this study it can be said that rosmarinus officinalis consumption in high doses is not recommended because it will have a negative impact on reproductive tissues and sex hormones.

Keywords: Oogenesis, Ovary, Uterus, Oviduct, Rosmarinus officinalis

P94: Blood serum and testicular tissue concentration of zinc, iron, copper and lead and their relationship to sperm quality in ram

Hamid Hassani [1] , Morteza Yavari [2]

1- Departement of Animal Sciences, Faculty of Agriculture and Natural Resources, Karaj Branch, Islamic Azad University, Karaj, Iran
2- Deparrtement of Clinical Sciences, Faculty of Veterinary Sciences, University of Bu-Ali Sina, Hamedan, Iran

Corresponding Author: *Department of Animal Sciences, Faculty of Agriculture and Natural Resources, Karaj Branch, Islamic Azad University, Karaj, Iran, email: mdfhassani@gmail.com*

Background: Environmental factors play an important role in the reduction of sperm quality. Metals, such as lead, copper, zinc, and iron have been reportedly linked with alteration of sperm quality. Lead is a well-known reproductive toxicant and can lead to negative effects on the testicular functions. The aim of this study was to evaluate zinc, copper, iron and lead levels in blood serum and testicular tissue of ram and their relationship to sperm morphology and motility.

Methods: The concentrations of metals in the blood serum and testicular tissue were measured from 45 adult rams by using an Flame Atomic Absorption Spectrophotometer (FAAS). Mass motility and individual motility were assessed in a light microscopy at 400× magnification at 37ºC. The viability and abnormal morphology parameters of spermatozoa in the epididymal sperm samples were assessed by means of the eosin-nigrosin stain method. Statistical analysis of the results was carried out using the SAS software. The level of significance was set at 0.05 and 0.01.

Result: In our study, Significant positive correlation existed between serum zinc and proximal cytoplasmic droplet ($p<0.05$), serum lead and proximal cytoplasmic droplet ($p<0.05$), testicular lead and detached head ($p<0.05$), and testicular zinc and coiled midpiece ($p<0.01$).Also, significant negative correlation existed between serum copper and mass motility ($p<0.05$) and serum lead and individual motility ($p<0.05$).

Conclusion: Results of this study show that copper and lead were negatively correlated with motility of ram spermatozoa. On the other hand, zinc and lead were positively correlated with sperm morphology. Our findings support the hypothesis that environmentally relevant levels of metals are associated with sperm quality.

Keywords: Copper, Iron, Lead, Ram, Sperm quality, Testicular, Zinc

P95: The effect of hydroalcoholic extract of capparis spinosa on quality of sperm and rate of testosterone following induction of diabetes in rats

Amshid Mohammadi [1] , Hamdollah Delaviz [2]

1- Medicinal plants Research Center, Yasuj University of Medical Sciences, Yasuj, Iran
2- Associate Professor,Medicinal plants Research Center, Yasuj University of Medical Sciences, Yasuj, Iran

Corresponding Author: *Associate Professor,Medicinal plants Research Center, Yasuj University of Medical Sciences, Yasuj, Iran, email: j_mohammadi2005@yahoo.com*

Background: 48 Wistar rats (200-250 g) were divided into 6 groups of 8. The shame and diabetic control groups received distilled water. The sham and two diabetic treatment groups received 20, 20 and 30 mg/kg hydroalcohoic extract of Capparis spinosa, respectively. The sixth group received 100 mg/kg of vitamin E. All groups were treated for 21 days; then, the rate of testosterone hormone and qualities of sperm were measured.

Methods: 48 Wistar rats (200-250 g) were divided into 6 groups of 8. The sham and diabetic control groups received distilled water. The sham and two diabetic treatment groups received 20, 20 and 30 mg/kg hydroalcohoic extract of Capparis spinosa, respectively. The sixth group received 100 mg/kg of vitamin E. All groups were treated for 21 days; then,

the rate of testosterone hormone and qualities of sperm were measured.

Result: The mean values of fast mobility and normal morphology of sperm increased significantly (64.25 ± 15.31 and 70.38 ± 19.78 percent, respectively) in diabetic treatment rats received 30 mg/kg of Capparis spinosa compared to control diabetic group. Although, the rate of testosterone increased in diabetic treatment groups, it was not significant.

Conclusion: The hydroalcohoic extract of Capparis spinosa could improve the reproductive parameters in diabetic rats.

Keywords: Capparis spinosa, Rats, Sperm quality, Testosterone, Diabetes mellitus

P96: The investigation of developmental competence of mouse vitrified pre-antral follicles in the presence of alpha lipoic acid

Sahar Hatami, Saeed Zavareh [1], Mojdeh Salehnia [2], Hosein Dinarvand [3]

1- Supervisor
2- Supervisor
3- Colleague

Corresponding Author: *School of Biology, Damghan University, Damghan, Iran, email: s.hatami69@gmail.com*

Background: Today, pre-antral follicles cryopreservation can be an efficient way to preserve female fertility of cancer patients before chemotherapy. This study was designed to evaluate the effect of Apha Lipoic Acid (ALA) on developmental competence of pre-antral follicles vitrified by cryotop method.

Methods: Isolated pre-antral follicles (140–150 µm in diameter) were divided into vitrified–warmed and fresh groups. Vitrified groups were exposed to equilibration solution (7.5% ethylene glycol (EG) and 7.5% dimethyl sulfoxide (DMSO) in DPBS+20% FBS) for 5 and 10 min,respectively and then exposed to vitrification solution (15% EG, 15% DMSO and 0.5M sucrose in DPBS +20% FBS) for 30 sec and 2 min, respectively, and those were immersed in LN2 using the cryotop method. Finally, each group was subjected to in vitro maturation with or without ALA for 12 days, followed by adding human chronic gonadotropin to induce ovulation. Statistical analysis was performed using SPSS-ver.16 software package.

Result: The respective rates of survival, growth, antrom formation and MII oocytes were significantly lower in vitrified groups, whereas in the presence of ALA were significantly higher in both vitrified and non-vitrified groups (P

Conclusion: Developmental outcomes showed ALA improves the in vitro development of non-vitrified and vitrified pre- antral follicles.

Keywords: Apha lipoic acid, Cryotop, Vitrification, Pre-antral follicles

P97: Adverse effects of hepatitis B virus on male infertility:a systematic review and metaanalysis

Elham Ebrahimi [1]

1- School of Nursing and Midwifery, HafteTeer Square, Shahroud, Iran

Corresponding Author: *Elham Ebrahimi, School of Nursing and Midwifery, HafteTeer Square, Shahroud, Iran. Telephone: +98-23-33395054.E-mail: ebrahimi_308@yahoo.com*

Background: Hepatitis B virus (HBV) is one of the most prevalent blood-borne viruses worldwide. Nowadays, an increasing number of infertile HBV-infected individuals have turned to assisted reproductive technology (ART), including in vitro fertilization, (IVF)/intracytoplasmic sperm injection (ICSI) and embryo transfer (ET) treatments. However, little is currently known about the impact of HBV infection on their outcome.

Methods: According to an identified plan, we searched the original articles which compared the outcomes of ART between inactive hepatitis B men and normal healthy men .We included any cohort, case control and cross-sectional studies if they had a healthy control group and reported the ART outcomes in pregnant women. Meta-analysis was performed with Review Manager 5.4 and Stata 11 software. We compared pooled odds ratio (OR) (as an effect size), chi-squared (Chi2), I2 and tau-squared (Tau2),(as the statistical tests for assessing statistical heterogeneity) ,95% confidence intervals (CIs) and the random effects model (as a method for analysis). We explored

statistical heterogeneity using the I2 and tau-squared (Tau2) statistical tests.

Result: After final assessment, eighteen studies were included. We found that HBV infection significantly contributed to both implantation rate (OR: 0.57, 95% CI: 0.48–0.99, P50.044) and clinical pregnancy rate (OR: 0.66, 95% CI: 0.45–0.95, P50.036).

Conclusion: We conclude that HBV infection in men is associated with impaired ICSI and embryo transfer outcomes as well as impaired sperm quality. Further studies are needed to confirm these findings and to understand the molecular mechanisms responsible for these effects on reproductive performance.

Keywords: ARToutcome, Infertility treatment, Hepatitis B

P98: The impact of elevated serum progesterone level on hCG day in relation to the number of metaphase II oocytes on ICSI outcome

Azadeh Raoufi [1], Tahereh Zare-Yousefi [2], Zahra Nikpouri [3], Talie Rahimian [4], Parvaneh Abdollahian [5], Ahmad Hosseini [6]

1- Infertility Research Center, Mehr Medical Institute, Rasht, Iran
2- Infertility research center, Mehr medical Institute, Rasht, Iran.
3- Infertility research center, Mehr medical Institute, Rasht, Iran
4- Infertility research center, Mehr medical Institute, Rasht, Iran.
5- Infertility research center, Mehr medical Institute, Rasht, Iran.
6- Infertility research center, Mehr medical Institute, Rasht, Iran.2. Cellular and Molecular Biology Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

Corresponding Author: *Infertility Research Center, Mehr Medical Institute, Rasht, Iran, email: dr.mehrafza@yahoo.com*

Background: High serum progesterone level on the day of hCG administration may adversely affect in vitro fertilization outcome. The aim of present study was to evaluate the impact of elevated serum progesterone level on hCG day in relation to the number of metaphase II oocytes on ICSI outcome.

Methods: In this retrospective study, we reviewed the results of 477 patients undergoing ICSI-embryo transfer at Mehr Medical Institute. Patients were divided into four groups according to progesterone / metaphase II ratio. All demographic and stimulation characteristics were compared between groups.

Result: Progesterone was positively correlated to the number of metaphase II oocyte and ≥ 14 mm follicles. Implantation and pregnancy rate decreased in highest progesterone / metaphase II ratio (P

Conclusion: Progesterone secreted from each follicle ≥ 14 mm or progesterone per mature oocyte can be a predicator of pregnancy rate related to endometrial receptivity.

Keywords: Intracytoplasmic, Pregnancy, Sperm injections, Progesterone

P99: Study of in vitro fertilization (IVF) of mice with phenylhydrazine-induced hemolytic anemia; ameliorating effect of vitamin C

Hojat Anbara [1], Rasoul Shahrooz [2], Gholamreza Najafi [3], Hassan Malekinejad [4], Sadeq Saadati [5]

1- Department of Basic Sciences, School of Veterinary Medicine, University of Tehran, Tehran, Iran
2- Associate Professor, Department of Basic Sciences, School of Veterinary Medicine, Urmia University, Urmia, Iran
3- Assistant Professor, Department of Basic Sciences, School of Veterinary Medicine, Urmia University, Urmia, Iran
4- Professor, Department of Basic Sciences, School of Veterinary Medicine, Urmia University, Urmia, Iran
5- DVM Student, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran

Corresponding Author: *Rasoul Shahrooz, Department of Basic Sciences, School of Veterinary Medicine, Urmia University, Urmia, Iran, email: hojatanbara@gmail.com*

Background: Anemia and consequently hypoxia can cause disorders in fertility and spermatogenesis. Iron released from red blood cells in hemolytic anemia, as an oxidative agent may increase oxidative stress in the body. This study was designed to minimize the deleterious effects of hypoxia on the genital organ. For this purpose, the protective role of vitamin C (Vit C) as effective antioxidant compound was evaluated against the PHZ-induced hemolytic anemia.

Methods: Adult male mice were randomly divided into four groups that included eight in each. The first group received 0.1 ml of normal saline intraperitonealy (IP). The second group received 60 mg/kg of phenylhydrazine per 48-hours intraperitonealy. The third group received 60 mg/kg of phenylhydrazine along with 250 mg/kg of vitamin C intraperitonealy. The fourth group received the same dose of vitamin C as the third group. After 35 days, the sperms were

collected from epididymis and in-vitro fertilization (IVF) was evaluated.

Result: PHZ-induced hemolytic anemia significantly decreased the number of fertilized oocytes, two-cell and four-cell embryos, morula, blastocyst and arrested embryos. However, administrating of vitamin C improved these parameters significantly (P

Conclusion: It seems that vitamin C as free radical scavengers have the potential to decrease oxidative damages on reproductive organ in hemolytic anemia induced by PHZ.

Keywords: In vitro fertilization, Phenylhydrazine, Vitamin C, Hemolytic anemia

P100: Effects of antioxidants on rat sperm after freeze-thawing

Ali Soleimanzadeh [1] , Saberivand Adel [2] , Alireza Nourian [3] , Mehdi Kian [4]

1- Department of Theriogenology, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran.
2- Department of Clinical Sciences, Faculty of Veterinary Medicine, Tabriz University, Tabriz, Iran.
3- Department of Theriogenology, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran.
4- Department of Theriogenology, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran.

Corresponding Author: *Department of Theriogenology, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran, email: a.soleimanzadeh@urmia.ac.ir*

Background: Sperm cryopreservation requires liquid nitrogen method for long term storage. The combinations of sperm storage involved are cooling rate, chemical composition of the extender, reactive oxygen species and cryoprotectant concentration factors that affect the life-span of spermatozoa. Vitamin E and curcumin are known as effective antioxidants against oxidative stress. The aim of this study was to evaluate the effects of vitamin E and curcumin on sperm parameters during semen freezing process.

Methods: Collected sperm from 10 adult rats were divided into 5 groups: fresh sperm (control), freeze sperm (mesh), curcumin (2.5 mM) + Vitamin E (200 µM) + sperm, and all groups were cooled to 5 0C and frozen in 0.25 ml French straws. Frozen straws were then thawed individually at 37 0C for 20 s in a water bath for evaluation.

Result: After post thawed viability, DNA integrity and motility of the sperm were analyzed. Vitamin E and curcumin increased percentages of motility, viability and DNA integrity, compared to mesh following the freeze-thawing (P

Conclusion: The findings of this study showed that this antioxidant supplementation in semen extenders, was of greater benefit in sperm parameters of frozen-thawed in adult rats.

Keywords: Freeze- thawed, Rats, Sperm parameters, Antioxidants

P101: Effects of short-term administration of gonadotropin-releasing hormone agonist on developmental follicles apoptosis of adult female rats

Hadis Mohammadbeigi [1] , Tahmineh Peirouvi [2]

1- Student Research Committee,Urmia University of Medical Siences, Urmia, Iran
2- Department of Histology, Faculty of Medicine, Urmia University of Medical Sciences, Urmia, Iran

Corresponding Author: *Student Research Committee,Urmia University of Medical Siences, Urmia, Iran, email: hadis2014mb@gmail.com*

Background: Gonadotropin releasing hormone receptors (GnRHR) have been identified in ovarian granulosa cells (GC). It has also been observed that the activation of GnRHR in GC regulates gonadal function. In the mammalian ovary, apoptotic death of follicular cells can occur at all stages of follicular development and, in most cases, appears to be initiated in the granulosa cell population. The aim of the present study was to investigate the effects of GnRH-Ag (buserelin) on apoptosis index in rat ovarian follicles.

Methods: 24 adult wistar rats were randomly divided into three groups (n=8). Rats were treated with 300 µg/kg buserelin (SC, low dose group), 600 µg/kg buserelin (SC, high dose group) and normal saline (SC, control group) for five days at specific times. Thirty days after the first injection, rats were anesthetized with choloroform and their ovaries were dissected out. Ovary fragments were routinely processed and embedded in paraffin. The rate of

apoptosis in ovary was evaluated in 5 µm thick formalin fixed paraffin embedded tissues of ovary using the TUNEL kit according to the manufacture´s instructions. The numbers of TUNEL-positive cells were determined by counting them in the granulosa cells.

Result: The percentage of apoptotic cells increased significantly in primordial follicles in low and high dose groups (p=0.015, p=0.004), unilaminar follicles in the high dose group (p=0.049) and multilaminar primary follicles in the high dose group (p=0.047) compared with those in the control group, respectively. However, no significant changes in TUNEL-positive apoptotic cells were observed in secondary and graffian follicles.

Conclusion: In this study, we found that the short-term GnRH-Ag (buserelin) administration increases apoptosis in the granulosa cells.

Keywords: Buserelin, Granulosa cells, Rat, Apoptosis

P102: Human follicular fluid improves the hatching rate of mouse blastocyst

Shirin Geravandi [1] , Mehri Azadbakht [2] , Mitra Bakhtiari [3] , Azadeh Karami [4] , Eshrat Kalehoei [5]

1- Department of Biology, Faculty of Basic Sciences, Razi University, Kermanshah, Iran
2- Department of Biology, Faculty of Basic Sciences, Razi University, Kermanshah, Iran
3- Kermanshah University of Medical Sciences, Kermanshah, Iran. and. Motazedi IVF center, Kermanshah ,Iran
4- Kermanshah University of Medical Sciences, Kermanshah, Iran
5- Department of Biology, Faculty of Basic Sciences, Razi University, Kermanshah, Iran

Corresponding Author: *Department of Biology, Faculty of Basic Sciences, Razi University, Kermanshah, Iran, email: geravandi.sh90@yahoo.com*

Background: Blastocyst hatching is a very important physiological phenomenon. Successful blastocyst hatching determines subsequent embryo survival and development. In the whole process of hatching, blastocysts are regulated by a variety of cytokines and biological molecules. Follicular fluid is a unique biological fluid in which the critical events of oocyte and follicular maturation and somatic cell-germ cell communication occur. This study determined the role of human follicular fluid in mouse blastocyst hatching.

Methods: Follicular fluid was prepared from women who had male-factor infertility and cellular matter was removed from the FF by centrifugation at 2000g for 20 min. NMRI female mice were superovulated and then mated with mature male mice. On day 3 of their pregnancy, the pregnant mice were killed and early blastocysts were flushed from their uterine horns with culture media. They were cultured in media supplemented with 10% human follicular fluid and cultured for 24 hours.

Result: Hatching rate and survival rate of blastocyst in the group supplemented with FF were significantly higher than control group (73.4% vs 59 %) and (90.2% vs 75 %) , respectively (p

Conclusion: Follicular fluid composition has recently been investigated as a possible predictor of oocyte and embryo developmental potential. It could Improve blastocyst quality and hatching rate.

Keywords: Blastocyst, Hatching, Mouse, Follicular fluid

P103: Comparison of follicular fluid and stem cell conditioned medium as in vitro maturation medium

Shirin Geravandi [1] , Mehri Azadbakht [2] , Mitra Bakhtiari [3] , Hossein Zhale [4] , Zahra Kalhori [5] , Eshrat Kalehoei [6] , Azadeh Karami [7]

1- Department of Biology, Faculty of Basic Sciences, Razi University, Kermanshah, Iran
2- Department of Biology, Faculty of Basic Sciences, Razi University, Kermanshah, Iran
3- Kermanshah University of Medical Sciences, Kermanshah, Iran. and. Motazedi IVF center, Kermanshah ,Iran
4- Department of Biology, Faculty of Basic Sciences, Razi University, Kermanshah, Iran
5- Department of Biology, Faculty of Basic Sciences, Razi University, Kermanshah, Iran
6- Department of Biology, Faculty of Basic Sciences, Razi University, Kermanshah, Iran
7- Kermanshah University of Medical Sciences, Kermanshah, Iran. and. Motazedi IVF center, Kermanshah ,Iran

Corresponding Author: *Department of Biology, Faculty of Basic Sciences, Razi University, Kermanshah, Iran, email: geravandi.sh90@yahoo.com*

Background: Follicular fluid (FF) is a unique biological fluid that provides an important microenvironment for the development of oocytes. Mesenchymal stem cells (MSCs) secrete a variety of cytokines and growth factors and some of these

secreted bioactive factors could improve meiotic maturation in vitro. The aim of this study was to compare the effect of human follicular fluid and mouse stem cell conditioned medium on in vitro maturation as well as in vitro fertilization of mouse oocyte.

Methods: FF was prepared of fertile women,cellular matter was removed by centrifugation at 2000g for 20 min. The mouse bone marrow was collected by flushing femurs and tibias of NMRI mice and cultured with DMEM medium. After three passages, the supernatant was collected as CM for immediate use. We used 100% CM and 10% concentration of follicular fluid as maturation medium.

Result: Percentage rates of oocytes reaching to the MII stage were 61% and 74% in FF and CM group, respectively. Cleavage rate following in vitro fertilization in CM group was higher than FF group (81% vs 70%) (p

Conclusion: In vitro maturation of oocytes is a promising technique to reduce the costs and side-effects of gonadotrophin stimulation in in vitro fertilization. Using natural component such as follicular fluid and MSc conditioned medium would be the great alternative for low efficiency synthetic IVM medium.CM showed better results in comparison to FF as maturation medium.

Keywords: In vitro maturation, Mouse oocyte, Stem cell conditioned media, Follicular fluid

P104: The effect of human chorionic gonadotropin (hCG) on rat sperm motility

Mansour Mousavi [1] , Hossein Barzegar Ganji [2] , Mitra Arianmanesh [3] , Mahdi Hadi [4] , Sanam Mohsenzadeh [5]

1- Zanjan University of Medical Sciences, Zanjan, Iran
2- Zanjan University of Medical Sciences
3- Zanjan University of Medical Sciences
4- Tofigh Daru, Research and Engineering Com.
5- Zanjan University of Medical Sciences

Corresponding Author: *Department of Anatomical Sciences, Faculty of Medicine, Zanjan University of Medical Sciences, Zanjan, Iran, email: mansourmousavi@yahoo.com*

Background: The motility of sperm is the one of the most important factors on fertility rate. In contrary to natural conception, in in vitro fertilization (IVF), sperms are not exposed to the fallopian secretions including hCG to get capacitation. hCG is able to increase cAMP level in human sperm. Therefore, in this study, the effect of hCG on rat sperm motility was investigated.

Methods: Epididymides of rats (5 rats/group) were collected and divided into two groups (control and experiment). After harvesting sperms into T6 medium, the experiment groups were treated with various concentrations of hCG (25, 50, 75 and 100 ng/ml) for 60 min and 120 min incubation time. The control groups were incubated at the same time, but without hCG. The motility rates including progressive and non progressive in experimental groups were analyzed then compared with control groups.

Result: There were a significant elevation in total sperm motility and a significant reduction in sperm immotility in experimental group treated with 25 ng/ml hCG at 120 min incubation time in comparison with its control (P

Conclusion: T6 medium supplemented with 25 ng/ml hCG followed by 120 min incubation time improved total motility of rat sperms.

Keywords: hCG, IVF, Sperm motility

P105: Effects of silymarin on the lipid peroxidation and total antioxidant power of human sperm treated with aluminum chloride

Masoumeh Aghashahi [1] , Hamid Reza Momeni [2] , Niloufar Darbandi [3] , Najmeh Eskandari [4]

1- Arak University,Arak, Iran
2- Arak university,faculty of science,Biology department,Arak,Iran.
3- Arak university,faculty of science,Biology department,Arak,Iran.
4- Arak university,faculty of science,Biology department,Arak,Iran.

Corresponding Author: *Masoumeh Aghashahi Aghashahi.ma@gmail.com*

Background: Aluminum as an environmental pollutant exerts its adverse effects by oxidative stress and silymarin is a potent antioxidant. This study was performed to investigate the effect of silymarin on the adverse effects of aluminum chloride on lipid peroxidation and total antioxidant power in human sperm.

Methods: Human spermatozoa were divided into five groups: 1. Sperm at 0 hour 2. sperm in control group 3. sperm treated with aluminum chloride (0.5 mM) 4. sperm treated with aluminum chloride (0.5 mM) + silymarin (1 µM) 5. sperm treated with silymarin (1 µM).The treatments were done for 180 minutes.To evaluate sperm lipid peroxidation and total antioxidant power of sperm, malondyaldehyde (MDA) and Ferric Reducing Antioxidant Power (FRAP) were measured respectively.

Result: In aluminum group, the amount of MDA significantly increased whereas the amount of FRAP significantly decreased as compared to the control. In the silymarin + aluminum chloride group, silymarin could significantly compensate the adverse effects of aluminum on MDA and FRAP compared with the aluminum chloride group. The application of silymarin alone significantly decreased MDA and significantly increased FRAP as compared to the control.

Conclusion: Silymarin could compensate the adverse effects of aluminum chloride on lipid peroxidation and total antioxidant power in human sperm.

Keywords: Human Spermatozoa, Lipid peroxidation, Silymarin, Total antioxidant power, Aluminum chloride

P106: Effect of melatonin onPGR(progesterone receptor),cumulus expansion and in vitro fertilization in mouse

Maryam Ezzati [1] , Leila Roshangar [2] , Nahid Karimian [3]

1- Tabriz university of Medical Sciences, Tabriz, Iran
2- Umbilical stem cell research center in Tabriz
3- Department of Tissue Engineering Faculty of modern science in tabriz

Corresponding Author: *Maryam Ezzati, Tabriz university of Medical Sciences, Tabriz, Iran. Email: maryamezzati744@gmail.com*

Background: Infertility is a problem of public health in different societies .It affects approximately 15% of sexually active couples. One of the factors that can affect fertility is melatonin.It is important to protect oocytes and embryos from material which cause oxidative stress in the culture medium. Therefore, the aim of present study was to investigate if melatonin can regulate expression of PGR(progesterone receptor) in cumulus cells and its consequences on the outcomes of in vitro fertilization.

Methods: For this purpose, 30 adult female mice and 15 adult male mice were used. Female mice were superovulated with 10 units PMCG (pregnantmare serum gonadotropin, and 48 hours later,10 units HCG (human chorionic gonadotropin). Cumulus-oocyte complexes (COCs) were collected from female mice oviduct by flashing method. Cumulus cells were cultured with 10µM melatonin for 6 hours and then prepared for Real time RT-PCR(reverse transcription polymerase chain reaction) for evaluation of PGR expression. Fertilization rate was evaluated by IVF.All data was analyzed by using t-test.

Result: Result of the study showed that expression of PGR(progesterone receptor) in cumulus cells of mice that received melatonin was increased in comparison of control group and fertilization rate increased in experimental group in comparison to control group.

Conclusion: It is concluded that melatonin could improve outcome of fertility by increasing PGR activity.

Keywords: Cumulus expansion, Fertility rate, PGR, Melatonin

P107: Effects of nano-zinc oxide and melatonin on the spermatogenesis disruption of rat after cyclophosphamide administration

F. Torabimand [1] , N. Rezaei [2] , M. Shafaroudi Malekzadeh [3]

1- Department of Anatomy and Cell Biology, Faculty of Medicine, Mazandaran University of Medical Sciences, Sari, Iran
2- Department of Anatomy and Cell Biology, Faculty of Medicine, Mazandaran University of Medical Sciences, Sari, Iran
3- Department of Anatomy and Cell Biology, Faculty of Medicine, Mazandaran University of Medical Sciences, Sari, Iran

Corresponding Author: *Rezaei N., Department of Anatomy and Cell Biology, Faculty of Medicine, Mazandaran University of Medical Sciences, Sari, Iran. P.O. Box:48471-91971, e-mail: nourrezaei@gmail.com*

Background: Cyclophosphamide (CP) as an anticancer alkylating agent has been known as a male reproductive toxicant that can cause infertility. This study investigated protective effects of two powerful antioxidant, nano-zinc oxide (NZnO) and melatonin (Mel) on the spermatogenesis disruption of rat after CP administration.

Methods: For this purpose, 48 healthy adult male Wistar rats were divided into six groups (n=7). Group 1: received saline (IP) were used as a control group. Group 2: 60mg/kg/week CP. Groups 3 and 4: 10 mg/kg/week Mel and 5mg/kg/week NZnO were given 2 hours before of CP, respectively. Groups 5 and 6 received NZnO and Mel simultaneously. The following group 5 also received CP. After seven weeks of treatment, testis were dissected out. Histomorphometrical and Histopathological analysis of the testis and germinal cell apoptosis was evaluated by the TUNEL assay. Statistical analysis was done by the SPSS 16. Values of P

Result: The histopathological examination revealed that CP had caused degeneration and desquamation of germinal cell in the epithelium and showed a significant difference (p

Conclusion: These results suggest that simultaneous administration of Mel and NZnO have more effective protection against CP-induced reproductive damage than Mel or NZnO alone due to a synergistic reduction in oxidative stress.

Keywords: Melatonin, Nano-zinc oxide, Oxidative stress, Spermatogenesis, Cyclophosphamide

P108: Differentiation of human CD146 positive endometrial stem cells to adipogenic, osteogenic, neural progenitor and glial like cells

Mojdeh Salehnia [1] , Saeideh Ziaei [2] , Mehri Fayazi [3]

1- Anatomy Department, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran
2- Midwifery Department, Faculty of Medical Sciences Tarbiat Modares University, Tehran, Iran
3- Department of Medical Sciences, Najafabad Branch, Islamic Azad University, Najafabad, Iran

Corresponding Author: *Mehri Fayazi, Department of Medical Sciences, Najafabad Branch, Islamic Azad University, Najafabad, Iran, email: m.fayazi@modares.ac.ir*

Background: The aim of this study was to investigate the potential differentiation of CD146+ endometrial stem cells to several lineages.

Methods: Endometrial stromal cells were cultured using DMEM/F-12 and were passaged every 7-10 days when cultures reached 80-100% of confluency. The immunophenotypes of single endometrial cells were analyzed using flow cytometry at fourth passage. Then the CD146+ cells were sorted using magnetic activated cell sorting and they were cultured and analyzed for in vitro differentiation to several lineages. Detection of adipocyte and osteocyte like cells were assessed by oil-red O and alizarin red staining respectively. For detection of neural progenitor and oligodendrocyte like cells, the cells were immunostained by neurofilament 68 and oligo2 respectively.

Result: The rates of CD90, CD105, CD146, CD31, CD34 and CD9 of cultured endometrial cells were 94.98 ± 3%, 95.77 ± 2.5%, 27.61 ± 2%, 0.79 ± 0.05%, 1.43 ± 0.1% and 1.01 ± 0.06% respectively. CD146+ cells were isolated to high purity. CD146+ differentiated cells to adipogenic cell with typical lipid-rich vacuoles and osteogenic cells were observed and their mesenchymal origin was confirmed. They were also differentiated into neural progenitor and glial differentiation by retinoic acid, basic fibroblast growth factor and epidermal growth factor signaling molecules, respectively and were confirmed by neurofilament 68 and oligo2 immunocytochemistry. The efficiency of differentiation to neural progenitor and oligodendrocyte like cells was 90 ± 3.4% and 79 ± 2.8% respectively.

Conclusion: This study showed that CD146+ cells from human endometrium after in vitro cultivation can differentiate into adipogenic, osteogenic, neural progenitor and glial like cells. They may provide available alternative source of stem cells for future cell-based therapies and tissue engineering applications.

Keywords: CD146, Endometrial stem cells Differentiation, Human endometrium

P109: Four months supplementation with a grape extract containing resveratrol modulates oxidative stress in peripheral blood mononuclear cells and testis tissue of type 2 diabetes

Mina Vardyani [1] , Roghayeh Sheervalilou [2] , Sakine Shirvaliloo [3] , Ali Abdi [4]

1- Department of Reproductive Biology, Faculty of Advanced Medical Sciences, Shahid Beheshti University of Medical Sciences, Tehran, Iran
2- Department of Molecular Medicine, Faculty of Advanced

Medical Sciences, Tabriz University of Medical Sciences, Tabriz, Iran
3- Department of Medical Physics, Faculty of medicine, Iran University of Medical Science, Tehran, Iran
4- Department of Medical Physiology, Faculty of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran

Corresponding Author: *Mina Vardyani, Department of Reproductive Biology, Faculty of Advanced Medical Sciences, Shahid Beheshti University of Medical Sciences, Tehran, Iran. Email: r_valiloo@yahoo.com, Tel: +989126393528*

Background: Diabetes mellitus is an endocrine/metabolic disorder which is characterized by hyperglycemia and insufficient endogenous insulin secretion. Diabetes causes microangiopathy and macroangiopathy leading to dysfunction of organs especially the eyes, kidneys, peripheral nervous system and lungs. Its impact on the reproductive system is characterized by functional and structural changes of testis. This study was designed to answer whether redox state is involved in pathogenesis of diabetes-related reproductive system complications; And whether long-term prescription of resveratrol can prevent these complications.

Methods: Male wistar rats were divided in 4 groups: normal control, diabetic control, normal treated with resveratrol and diabetic treated with resveratrol. Induction of diabetes was performed by injection of stroptozotocin/nicotinamid. Resveratrol treatment was carried out for four months. At the end of four months, fasted rats were killed. The testis tissue and blood samples were considered for oxidative markers measurements.

Result: Uncontrolled diabetes increased blood glucose levels and decreased the body weights. The activities of oxidative markers increased the testis tissues and blood samples of diabetic rats. Four months treatment with Resveratrol alleviated all of the above variables as compared with diabetic control group.

Conclusion: Long term resveratrol administration improved metabolism via improvement of insulin sensitivity and reducing weight loss and it has anti-hyperglycemic effects by modulating high level blood glucose concentration in diabetic rats. Moreover, it was effective on antioxidant machinery impairment and reducing the high activities of oxidative markers. So, four months of resveratrol treatment was safe and had low serious adverse effects and can be considered as a dietary supplement for prevention/retardation of diabetes-related reproductive complications.

Keywords: Dietary supplement, Hyperglycemia, Oxidative stress, Reproductive system, Resveratrol, Testis tissue, Diabetes

P110: Effects of chronic psychological stress on rat's seminiferous tubules germ cell's apoptosis

Hossein Nikniaz [1] , Arash Davatgar badie [2]

1- Department of Anatomy, School of Medicine, Iran University of Medical Sciences, Tehran, Iran
2- Young Researchers and Elite Club, Tabriz Branch, Islamic Azad University, Tabriz, Iran

Corresponding Author: *Hossein Nikniaz, Email: hnikniaz@gmail.com*

Background: Recent studies have shown that apoptosis is involved in psychological stress responses. Psychological stress by affecting activity of hypothalamic-pituitary-adrenal (HPA) axis and neurochemical mediators can affect male fertility and reproduction system. The aim of present study was to investigate the effects of chronic psychological stress on the rat's seminiferous tubules germ cell's apoptosis.

Methods: Eighteen adult Wistar male rats were selected and randomly divided into the three groups of 6 animals each. In the test group, rats were exposed to water avoidance stress for 6 days. In the sham group, rats were placed on the same waterless platform for 6 days. Rats of control group received no intervention. Testis tissues were prepared for TUNEL assay for detection of apoptosis. Corticosterone levels were also determined.

Result: There was a significant enhancement in the serum corticosterone in test (15.26±0/5 ng/ml) and sham (18.3±0/1 ng/ml) groups when compared with the control group (10.13±0/24 ng/ml). The apoptotic cells significantly increased in test (16±0/57) and sham (19±0/61) groups when compared with the control group (8±0/61).

Conclusion: Based on the results, water avoidance stress, as a model of psychological stress increases the rat's seminiferous tubules germ cell's apoptosis and it is notable that stress and apoptosis of germ cells was observed in test and sham groups, but stress and apoptosis of sham group was more severe than test group.

Keywords: Germ cell, Stress, Apoptosis

P111: Effects of colostrum on sperm parameters, sex hormones, testes histopathological changes and oxidative stress in diabetic rats

Mehran Hosseini [1] , Khadijeh Vazifeshenas Darmiyan [2] , Samira Ezi [3]

1- Department of Public Health, Research Center of Experimental Medicine, Deputy of Research and Technology, Birjand University of Medical Sciences, Birjand, Iran
2- Department of Clinical Biochemistry, Faculty of Medicine, Birjand University of Medical Sciences, Birjand , Iran
3- Department of Anatomical Sciences, Faculty of Medicine, Birjand University of Medical Sciences, Birjand , Iran

Corresponding Author: *Mehran Hosseini, Department of Public Health, Research Centre of Experimental Medicine, Deputy of Research and Technology, Birjand University of Medical Sciences, Birjand, Iran.Email:Mehranhosseiny@yahoo.co.in*

Background: Diabetes mellitus has been emerged as a major worldwide healthcare problem. Diabetes involves multiple organs and leads to several complications. Multiple lines of evidence have been suggested that diabetes has adverse effects on male sexual and reproductive functions in diabetic patients and animals. The aim of present study was to investigate the protective effect of colostrum (COL) on sperm parameters, sex hormones, testes histopathological changes and oxidative stress in diabetic rats.

Methods: Diabetes was induced by a single intraperitoneal injection of streptozotocin (STZ) (50 mg/kg).Diabetic animals were randomly divided into 3 equal groups (n=10) and treated either with saline (model) or COL (2 concentrations).Also, 10 healthy male rats were allocated to normal control group and received only saline like model groups during the study period. The rats in the COL treated groups were given COL (200-400mg/kg) once a day orally for 8 weeks starting 3 days prior to STZ injection. At the end of the study, all animals were sacrificed, epididymal sperms were counted, testis tissues and blood samples collected for histopathologic and biochemical analysis.

Result: COL treatment significantly decreased the elevated tissue malondialdehyde (MDA) levels in testis tissues samples and increased the reduced sperm count .The COL treated rats showed an improved histologic appearance (germinal layer thickness, spermatogonia number and seminiferous tubule diameters) and serum testosterone levels.

Conclusion: The results from this study clearly provide evidence that CLO with a dose dependence manner ameliorated deleterious effects of diabetes on male reproductive system in diabetic rats.

Keywords: Colostrum, Diabetes, Oxidative stress, Sperm characteristics, Spermatogenesis, Testes, Testosterone, Streptozotocin

P112: Embryonic stem cell conditioned medium supports in in vitro maturation of mouse oocytes

Saber Miraki [1] , Aram Mokarizadeh [2] , Omid Banafshi [3] , Vahideh Assadollahi [4] , Mehdad Abdi [5] , Daem Roshani [6] , Fardin Fathi [7]

1- Department of Anatomy, Faculty of Medicine, Kurdistan University of Medical Sciences, Sanandaj, Iran
2- Department of Immunology and Hematology, Faculty of Medicine, Kurdistan University of Medical Sciences, Sanandaj, Iran
3- Cellular and Molecular Research Center, Faculty of Medicine, Kurdistan University of Medical Sciences, Sanandaj, Iran
4- Cellular and Molecular Research Center, Faculty of Medicine, Kurdistan University of Medical Sciences, Sanandaj, Iran
5- Department of Anatomy, Faculty of Medicine, Kurdistan University of Medical Sciences, Sanandaj, Iran
6- Social Determinants of Health Research Center, Kurdistan University of Medical Sciences, Sanandaj, Iran
7- Cellular and Molecular Research Center, Faculty of Medicine, Kurdistan University of Medical Sciences, Sanandaj, Iran

Corresponding Author: *Saber Miraki, Department of Anatomy, Faculty of Medicine, Kurdistan University of Medical Sciences, Sanandaj, Iran, email: saber.miraki@gmail.com*

Background: This study aimed to investigate the maturation and fertilization rates of immature mouse oocytes using embryonic stem cell conditioned medium (ESCM).

Methods: We obtained germinal vesicle (GV) stage oocytes from 4-6 week old female NMRI mice. GV oocytes with or without cumulus cells were subjected to IVM in either ESCM, embryonic stem cell growth medium (ESGM), or α-minimum essential medium (α-MEM). The MII oocyte maturation rate was recorded and these oocytes were fertilized in vitro. After 24 h, the fertilization success rate was recorded. The embryos were maintained in KSOM medium for 96 h

and allowed to grow until the blastocyst stage. After recording developmental competence, they were transferred into the uteri of pseudopregnant mice and we recorded their birth rates.

Result: No significant difference existed between maturation rates in α-MEM (68.18%) and ESCM (64.67%; p>0.05). There was a significantly higher rate for both alpha-MEM and ESCM compared to ESGM (32.22%; p0.05).

Conclusion: Therefore, ESCM is an effective medium for preantral follicle growth, oocyte maturation, and subsequent embryo development.

Keywords: Follicular development, In vitro, Maturation, Mouse oocyte development, Embryonic stem cells

P113: Qualitative comparison between TUNEL test and trypan blue staining for the detection of degradation rate in sperm subjected to cell phone radiation and radiated sperms treated by the α-tocophrol and zinc

Elika Marefatpour [1] , Aida Farahani [2] , Mohammad Hadi Bahadori [3] , Monireh Movahedi [4]

1- Master of science , Department of Biology, Faculty of science, University of Karaj, Karaj, Iran.
2- Master science, Dept. of Anatomy, Faculty of medicine, Guilan University of medical sciences, Rasht, Iran.
3- Cellular and Molecular Research Center, Faculty of Medicine, Guilan University of Medical Sciences, Rasht, Iran.
4- Department of cellular and molecular biology, Tehran north branch, Islamic Azad University, Tehran, Iran.

Corresponding Author: *Elika Marefatpour, Email: Elikamarefatpour@gmail.com*

Background: In modern society, cell phone has become an inherent part of human life and it's side effects on man's body are real and inevitable. One of the most important organs of which is infected, is male reproductive system and specially sperm by itself. Antioxidants like αtocophrol and Zinc can prevent damages a bit. More accurate and quick evaluation of these destruction is very important. And then the comparison of two TUNEL and Trypan blue test can be very useful.

Methods: Semen was divided to 6 groups , 2 control groups , 2 groups of radiated by cell phone for 10 minutes and 2 groups for semen radiated by cell phone rays for 10 minutes plus 5µM α-tocophrol and 15µM Zinc . One sample of each group was separated for TUNEL test and the rest was tested by Trypan blue .TUNEL test was done under TUNEL kit protocol and Trypan blue was done with 2% stain.

Result: In TUNEL test primitive level of apoptosis was evaluated in DNA. Cell phone rays breaks DNA by creating ROS .Quantitative researches have shown that by adding α-tocophrol and Zinc, ROS has decreased , and the result is that the sum of destructive cell phone rays on the sperm DNA have fallen down . In Trypan blue test, the viability of sperms was evaluated. Concerning the apoptosis made by cell phone, it caused the death of sperms and it was expected that adding α-tocophrol and zinc decreases this in longer period of time.

Conclusion: TUNEL test is more accurate and quicker than Trypan blue. In fact, TUNEL shows the changes in genotype, whereas Trypan blue shows the changes when it is at the level of changes in phenotype.

Keywords: ROS, Trypan blue, Zinc, α-tocophrol, TUNEL test, Sperm

P114: The effect of BMP4 variation on in vitro fertilization and embryo transfer outcome

Farhad mashayekhi [1] , Zakiye Sheykhpour [1]

1- Department of Biology, Faculty of Science, University of Guilan, Rasht, Iran

Corresponding Author: *Zakiyeh Sheykhpour, Email: zakiye_sheykhpour@yahoo.com*

Background: In vitro fertilization or fertilization (IVF) is a process by which an egg is fertilized by sperm outside the body. The process involves monitoring and stimulating a woman's ovulatory process, removing ova from the woman's ovaries and letting sperm fertilize them in a liquid in a laboratory. Many genes have been shown to be involved in the process of implantation. Bone morphogenetic protein 4 (BMP4) is encoded by BMP4 gene. BMP4 family binds to a 2 different types of serine-threonine kinase receptors known as BMPR1 and BMPR2. Signal transduction via these receptors occurs via Smad and map kinase pathways. BMP signaling is active during mouse pre-implantation development and is required for cell cleavage in pre-implantation mouse embryos. It has been suggested that BMP plays an important role

in the prediction of the IVF outcome. The present study evaluated the association between maternal genotype of SNP of BMP4 and in vitro fertilization and embryo transfer (IVF-ET) outcome in infertile women.

Methods: This case–control study comprised of infertile patients (n= 100) and women having one healthy child as controls (n= 100). Genotyping for SNP of BMP4 was calculated by statistical analysis. Statistical analysis was performed using the $\chi 2$-test and the Med Calc version 12.1.4.

Result: Further studies are needed to clarify this result.

Conclusion: Changes in allele and genotype frequencies were seen between two groups. It is thus concluded that BMP4 gene polymorphism is associated with the outcome of IVF-ET in northern Iran population.

Keywords: Gene polymorphism, IVF-ET, PCR-RFLP, BMP4

P115: Preconditioning of the bone marrow mesenchymal stem cells and detection of apoptosis, viability and proliferation of the cells at in vitro condition

Marziyeh Pooladi [1]

1- Anatomical Sciences Department, Medicine Faculty, Hamadan University of Medical Sciences, Hamadan, Iran

Corresponding Author: *Anatomical Sciences Department, Medicine Faculty, Hamadan University of Medical Sciences, Hamadan, Iran Corresponding author: AmanehMohammadiRoushandeh E_mail: a.mohammadiroshandeh@umsha.ac.ir E_mail: marziyehpooladi@yahoo.com.*

Background: Application of stem cells had some problems such as low viability and apoptosis after injection to the body because of exposure to toxic factors such as hypoxia, thermal stress and oxidative stress .It is suggested that preconditioning of the cells with cytotoxic factors before injection could enhance their efficiency. To increase the resistance of cells against toxic stresses, the present study investigated the effects of preconditioning with Cobalt(II) chloride on cell proliferation, viability and apoptosis.

Methods: The cells were cultured in 96 well plates and treated with different concentration of cobalt chloride for 6, 12, 24 and 48 hours , in 10 groups (Control, I: 5µM cocl2, II: 10µM cocl2 , III:,20µM cocl2 IV: 50µM ,V:70 µM , VI :90 µM ,VII :100 µM , VIII :120 µM, IX:150 µM and X : 200 µM) . After these time periods of treatment, the MSCs were exposed to lethal dose of cocl2 (300 µM) for 24 hours. Then, MTT assay and trypan blue staining were conducted to evaluate the cell proliferation and viability.Also, TUNEL assay was done to study the cell apoptosis. The data was analyzed with SPSS software and one way ANOVA.

Result: The cells isolated from bone marrow, were propagated easily in culture condition. Also, the cells morphology was not affected after exposure to cobalt chloride. Our findings indicated that preconditioning of mesenchymal stem cells with 120 µM for 6 hours,20µM for 12 and 24 hours and 5µM for 48 hours improved cell proliferation significantly after hypoxia in in vivo ($p< 0.05$).

Conclusion: Our findings suggest that preconditioning with 5,20,120 µM in mesenchymal stem cells, can improve the cell proliferation and viability and decrease the apoptosis, so preconditioning resulted to expression of some factors that are necessary for cell proliferation and viability , also, preconditioning can enhance cellular resistance and success of graft after injection to body ,and we can use this strategy for treatment of diseases.

Keywords: Cobalt(II) chloride, Preconditioning , HIF1α, Hypoxia, Mesenchymal stem cells

P116: The protective effect of Quercus brantii fruit methanolic extract on spermatogonia in type II diabetic rats

Gholamreza Hamidian [1] , Kiyana Asghari [2]

1- Department of Basic Science, Faculty of Veterinary Medicine, University of Tabriz, Tabriz, Iran
2- Department of Basic Science, Faculty of Veterinary Medicine, University of Tabriz, Tabriz, Iran

Corresponding Author: *Kiana Asghari, Department of Basic Science, Faculty of Veterinary Medicine, University of Tabriz, Tabriz, Iran, Email: asghari.kiana@yahoo.com*

Background: Type II diabetes is a common endocrine disorder that has a secondary side effect on structure

and function of male reproductive organ chronically. It is now an ever-growing calamity of global proportions and one of the most important public health challenges of the 21st century. Fruit of Iranian oak (Quercus brantii) possesses many biological and pharmacological activities and is used widely in Iranian traditional folkloric medicine. Our recent data showed that Q. brantii had a hypoglycemic effect in diabetic rats but there is no data about effects of Q. brantii fruit on spermatogonia cells in diabetic males.

Methods: In this study, 20 adult male wistar rats were divided into 4 groups including: control, sham, diabetic and treatment. Type II diabetes was induced by high fat diet and 35 mg/kg streptozotocin in diabetic and treatment groups. One week after streptozotocin injection, sham and treatment groups received 100 mg/kg/day total methanolic extract of Q. brantii by oral gavage for 40 consecutive days. Finally, animals were euthanized and testes were removed and fixed in 10% neutral buffered formalin. The samples were processed by routine and standard paraffin embedding and serially sectioned at 20 µm thickness. The sections were selected through systematic random sampling and stained by H&E. The number of spermatogonia was estimated by unbiased stereological technique using optical fractionator method.

Result: The results showed that Q. brantii increased the number of spermatogonia in sham compared to control but this difference was not significant. Results also indicated that diabetes caused reduction in number of spermatogonia and aministration of Q. brantii could inhibit this reduction significantly (p

Conclusion: It can be concluded that Q. brantii can be considered as a therapeutic strategy for improvement of diabetes side effect in testis and infertility of male diabetic people.

Keywords: Diabetes, Oak, Quercusbrantii, Spermatogonia

P117: The effects of broccoli on follicogenesis in female rat

Parviz Farzadinia [1] , Afshar Bargahi [2] , Mohammadreza Hajiani –e- asl [3] , Arman Hashemi [4]

1- Department of Biology and Anatomical Sciences, School of Medicine, Bushehr University of Medical Sciences, Bushehr, Iran
2- The Persian Gulf Marine Biotechnology Research Center, Bushehr University of Medical Sciences, Bushehr, Iran.
3- The Persian Gulf Marine Biotechnology Research Center, Bushehr University of Medical Sciences, Bushehr, Iran.
4- Student researches committee, School of Medicine, Bushehr University of Medical Sciences, Bushehr, Iran.

Corresponding Author: *Arman Hashemi, Borazjan, Bushehr, Iran, Email: Armanhashemi75@yahoo.com*

Background: Using greens and medical vegetables for treatment of various diseases has been common at different places of the world from many years ago. Broccoli is one of valuable greens that is full of nutrients. Broccoli with scientific name of brassica oleracea is from Crucifera family that is full of vitamin A , E , C, fiber , beta carotene, calcium , iron, zinc , selenium and sulforafan. So, broccoli by having a lot of anti- oxidation and estrogen components can have positive effect on secretion of ovary hormones and ovulation.

Methods: 40 female rats were divided into 4 groups of study and control . The study groups orally received 3 doses of broccoli extract (500,1000 and 2000 mg/kg) every other day for 8 weeks. At the end of treatment, tissue samples were taken from the ovary tissue and standard protocol of tissue was prepared. Quantitative and qualitative studies (morphology and morphometrics) were performed on micrograph . The quantitative data were analyzed statistically.

Result: The qualitative and quantitative studies on micrograph prepared from light microscopy, showed some histological changes (increase in primary, secondary and graffian follicles, increase of copse luteal and more activity of luteal and granular cells).

Conclusion: Our study showed that broccoli by having a lot of anti- oxidation effects, increases follicular numbers and luteal tissues.

Keywords: Anti-oxidant, Follicogenesis, Broccoli

P118: Effects of zinc oxide nanoparticles on ovarian tissue in female Wistar rats

Seyed Mohammad Hosseini [1] , Shahab Ramzanpour [2] , Zahra Sokouti [3] , Reza Amani [4] , Mohammad Hassan Aghajanikhah [5] , Seyed Vahid Razavi mehr [6] , Amirhossein Moshrefi [7]

1- Faculty of Veterinary Medicine, Islamic Azad University of Babol, Babol, Iran

2- Phd student of pathobiology , Faculty of Veterinary Medicine, Tehran University, Tehran, Iran
3- Educated master of science in cell and developmental, Biology department, Islamic Azad University of Damghan, Damghan, Iran
4- Veterinary student and member of Young researcher club and elite, Faculty of Veterinary Medicine, Islamic Azad University of Babol, Babol, Iran
5- Veterinary student and member of Young researcher club and elite, Faculty of Veterinary Medicine, Islamic Azad University of Babol, Babol, Iran
6- Veterinary student and member of Young researcher club and elite, Faculty of Veterinary Medicine, Islamic Azad University of Babol, Babol, Iran
7- Veterinary student and member of Young researcher club and elite, Faculty of Veterinary Medicine, Islamic Azad University of Babol, Babol, Iran

Corresponding Author: *Amirhossein, Moshrefi, Faculty of Veterinary Medicine, Islamic Azad University of Babol, Babol, Iran, Email: amirhoseen.moshrefi@yahoo.com*

Background: ZnO nanoparticles are smart and versatile nanomaterial that are widely used in biomedical and industrial fields. Significant increases in production and use of ZnO NPs leads to a greater probability for release into the environment and exposure to organisms. Present study showed the toxicity of ZnO nanoparticles on ovarian tissue.

Methods: 50 female wistar rats (150-200 gr) were randomly divided into 5 groups of ten animals: control, sham and three groups receiving 25, 50 and 100 mg/kg of ZnO nanoparticles. At the end of injection period, the ovaries were removed and after fixation, tissue processing, sectioning and staining with H&E method, the histopathological changes were examined by light microscope.

Result: Histopathological examination of ovarian tissue in female wistar rats after the intraperitoneal injection of zinc oxide nanoparticles showed signs of cytotoxicity including congestion, necrosis and inflammatory cell infiltration, compared to the control group.

Conclusion: The results of this study showed that ZnO NPs cause damage of ovary in a dose-dependent way.

Keywords: Histopathology, Ovary, Reproductive system, Toxicity , Zinc oxide

P119: Effects of additives on fertility of cooled ram semen

Mustafa Numan BUCAK [1] , Kenan Çoyan [2] , Nuri BAŞPINAR [3] , Şükrü GÜNGÖR [4] , Mustafa BODU [5] , Begimay ACİBAEVA [6] , Şükrü DURSUN [7]

1- Selcuk University, Faculty of Veterinary Medicine, Department of Reproduction and Artificial Insemination, Konya/Turkey
2- Pamukkale University, Faculty of Medicine, Department of Histology and Embryology, Denizli/Turkey.
3- Selcuk University, Faculty of Veterinary Medicine, Department of Biochemistry, Konya/Turkey.
4- Mehmet Akif Ersoy University, Faculty of Veterinary Medicine, Department of Reproduction and Artificial Insemination, Burdur/Turkey.
5- Selcuk University, Faculty of Veterinary Medicine, Department of Reproduction and Artificial Insemination, Konya/Turkey.
6- Selcuk University, Faculty of Veterinary Medicine, Department of Reproduction and Artificial Insemination, Konya/Turkey.
7- Aksaray University, Faculty of Veterinary Medicine, Department of Gynecology and Obstetrics Aksaray/Turkey.

Corresponding Author: *Mustafa Numan Bucak, Selcuk University, Faculty of Veterinary Medicine, Department of Reproduction and Artificial Insemination, Konya/Turkey, E-mail:mnumanbucak@gmail.com*

Background: The aim of the present study was to evaluate the effects of different additives, added to Tris extender (Tris 297.58 mM, citric acid 96.32 mM, fructose 86.66 mM, egg yolk 15%) on ram sperm fertility during liquid storage at 5o C.

Methods: Ejaculates were collected from Merino rams, divided into five groups, and diluted with the Tris base extenders including ellagic acid 2 mM, lycopene 0.5 mM, cysteamine 0.5 mM, ebselen 10 µM doses and no additives (control), respectively, at 37°C with a final concentration of approximately 400×106 sperm cells/ml (single step dilution), in a 15-ml plastic centrifuge tube.Synchronized ewes with PGF2α were cervically inseminated (200 x 106 spermatozoa ve 0.5 ml) with semen extendend groups at 0.h of liquid storage at 5°C. For comparison of the pregnancy outcomes (fertility rate), Chi-Square test was used. Differences with values of P

Result: The results obtained from fertility trials at the 0 h of storage were: ellagic acid 2 mM %60 (6/10), lycopene 0.5 mM %50 (5/10), cysteamine 1 mM %50 (5/10), ebselen 10 µM %80 (8/10), control %50 (5/10). The results were not significant compared to control (P>0.05).

Conclusion: The insemination of ewes with the semen diluted with antioxidants may be recommended at 0. h of liquid storage to achieve good pregnancy results.

Keywords: Additives, Artificial inemination, Fertility, Ram sperm

P120: Quercetin ameliorates motility in frozen-thawed stallion sperm

Afshin Seifi-Jamadi [1], Hmid Kohram [2], Ahmad Zareh-Shahne [3], Mehdi Ansari [4], Beatriz Macías-García [5]

1- Department of Animal Science, University College of Agriculture and Natural Resources, University of Tehran, Karaj, Iran
2- Department of Animal Science, University College of Agriculture and Natural Resources, University of Tehran, Karaj, Iran
3- Department of Animal Science, University College of Agriculture and Natural Resources, University of Tehran, Karaj, Iran
4- Department of Animal Science, University College of Agriculture and Natural Resources, University of Tehran, Karaj, Iran
5- Centre for Animal Science Studies (CECA), University of Porto, Porto, Portugal

Corresponding Author: *Afshin Seifi, Tehran University, Tehran, Iran, Email: a.seifi@ut.ac.ir*

Background: Overproduction of Reactive Oxygen Species (ROS) during sperm freeze-thawing cycles leads to membrane lipid peroxidation, DNA damage, motility loss and subsequent death. This oxidative stress can be alleviated by the addition of some antioxidants to semen extenders prior to freezing.

Methods: The present study was performed to evaluate the in vitro effectiveness of Quercetin on stallion sperm freezability. Ejaculates from 4 healthy Turkmen stallions, which exceeded minimum standards, were pooled and aliquots of each pool were diluted in an egg yolk based extender added with different concentrations of Quercetin (0.1, 0.2 and 0.3 mM) and two control groups (positive: base extender+ 0.5% ethanol, and negative: base extender). The following parameters were determined: sperm motility and kinematics, viability, morphology, membrane integrity and lipid peroxidation.

Result: Results showed that, except for motility and kinematics in which 0.1 mM Quercetin exerted significant improving effects (P 0.05). Additionally, higher concentrations of Quercetin (0.2 and 0.3 mM) exerted partially pro-oxidant activity on sperm viability and membrane integrity.

Conclusion: Therefore, 0.1 mM of Quercetin seems to relatively protect sperm motility during cryopreservation.

Keywords: Pro-oxidant, Reactive oxygen species, Sperm, Stallion, Quercetin

P121: Effect of various concentrations of butylated hydroxyanisole and butylated hydroxytoluene on freezability of Turkman stallions sperm

Afshin Seifi-Jamadi [1], Hamid Kohram [2], Ahmad Zareh-Shahne [3], Parvaneh Dehghanizade [4], Ejaz Ahmad [5]

1- Department of Animal Science, University College of Agriculture and Natural Resources, University of Tehran, Karaj, Iran
2- Department of Animal Science, University College of Agriculture and Natural Resources, University of Tehran, Karaj, Iran
3- Department of Animal Science, University College of Agriculture and Natural Resources, University of Tehran, Karaj, Iran
4- Department of Animal Science, University College of Agriculture and Natural Resources, University of Tehran, Karaj, Iran
5- Department of Clinical Sciences, Faculty of Veterinary Sciences, Bahauddin Zakariya University, Multan, Pakistan

Corresponding Author: *Afshin Seifi, Email: A.seifi@ut.ac.ir*

Background: The present study aimed to determine the effect of different concentrations of butylated hydroxyanisole (BHA) and butylated hydroxytoluene (BHT) on post-thawed stallion sperm quality.

Methods: The ejaculates collected from four healthy mature Turkmen stallions were pooled and divided into 8 aliquots. The samples were diluted with extenders containing different concentrations (0.5, 1 or 2 mM/mL) of BHA or BHT. The positive control (PC) samples were diluted with extender containing 0.5% ethanol (v/v) whereas the negative control (NC) samples were diluted with basic extender only. Semen samples were frozen according to a standard protocol. After thawing, motility, viability, membrane integrity, total abnormality and lipid peroxidation were assessed.

Result: The highest ($P < 0.05$) values for total motility, viability and plasma membrane functionality and lowest values for Malonedialdehyde (MDA) concentration were observed in samples supplemented

either with 1 mM BHT or 2 mM BHA. However, the progressive motility was higher (P

Conclusion: In conclusion, the use of 1 mM BHT or 2 mM BHA in extender improves the freezability of horse sperm by reducing oxidative stress during freeze-thaw process.

Keywords: BHA, BHT, Freezability, Lipid peroxidation, Motility, Horse semen

P122: Ocimum basilicum extract ameliorates testicular apoptosis induced by lead in rats

Nava Ainehchi [1] , Arash Khaki [2] , Elaheh Ouladsahebmadarek [3]

1- Women's Reproductive Health Research Center, Tabriz University of Medical Sciences, Tabriz, Iran
2- Department of Pathology, Tabriz Branch, Islamic Azad University,Tabriz,Iran.
3- Women's Reproductive Health Research Center, Tabriz University of Medical Sciences, Tabriz, Iran.

Corresponding Author: *Nava Ainehchi, Women's Reproductive Health Research Center, Tabriz University of Medical Sciences, Tabriz, Iran, Email: ainehchi.nava@gmail.com*

Background: The present study examined the efficacy of ocimum basilicum extract, a natural herb, with antioxidant properties, against testicular toxicity induced by lead, which is one of the most important toxic heavy metals.

Methods: All the experiments were done in compliance with the guide for the care and use of laboratory animals. Animals were divided into 4 groups (n=10 each) as follows: Group 1, rats were fed on the standard diet (composed of 20% casein, 15% corn oil, 55% corn starch, 5% salt mixture, and 5% vitamins. Water was available ad-libitum) and served as a control group; group 2, rats were treated with oral aqueous O. basilicum extract at a dose level of 20 mg/kg 5 days/wk for 8 weeks; group 3, rats were treated with oral administration of lead at a dose level of 30 mg/kg b.w. 5 days/wk for 8 weeks; group 4, rats were treated with lead (30 mg/kg b.w) followed by oral administration of aqueous O. basilicum extract (20 mg/kg) 5 days/wk for 8 weeks. The results were expressed as mean±SD of different groups. The differences between the mean values were evaluated by ANOVA followed by Student's t-test using Minitab 12 computer program (Minitab Inc., State Collage, PA, USA).

Result: The intoxicated rats showed decreased cell proliferation and it was reflected by a decrease in Ki-67 expression, whereas the increase in apoptotic rate was associated with a decrease in the Bcl/Bax ratio. Concomitant treatment with aqueous basil extract led to an improvement in histological, morphometrical and immunohistochemical changes induced by lead.

Conclusion: The beneficial effects of basil extract could be attributed to its antioxidant properties.

Keywords: Ki-67, Lead, Ocimum basilicum, Rats, Testis, Apoptosis

P123: Growth Factors Promote In Vitro Culture of Goat Spermatogonial Stem Cells

Mehrnoosh Bahadorani [1]

1- Department of Biology, Falavarjan Branch, Islamic Azad University, Isfahan, Iran

Corresponding Author: *Mehrnoosh Bahadorani, Department of Biology, Falavarjan Branch, Islamic Azad University, Isfahan, Iran and Department of Reproductive Biotechnology, Reproductive Biomedicine Research Center, Royan Institute for Biotechnology, ACECR, Isfahan, Iran, Email: m.bahadoran87@gmail.com*

Background: Growth factors are increasingly considered as important regulators of spermatogonial stem cells (SSCs).

Methods: This study investigated the effects of various growth factors (GDNF, IGF1, bFGF, EGF and GFRalpha-1) on purification and colonization of undifferentiated goat SSCs under in vitro and in vivo conditions.

Result: The number of colonies developed in GDNF + IGF1 + bFGF culture condition was significantly higher than the other groups (p

Conclusion: Obtained results demonstrated that combination of GDNF with IGF1 and bFGF promotes in vitro culture of goat SSCs while precludes uncontrolled proliferation of somatic cells.

Keywords: GDNF, Goat, IGF1, Spermatogonia, bFGF

P124: Effects of salvia officinalis hydroalcoholic extract on uterine histomorphometrical changes of rats treated with the carcinogen 7,12 Dimethyl-benz[a]antheracene (DMBA)

Marzieh Hormozpou, Malihezaman Monsefi

Corresponding Author: *Marzieh Hormozpou1 Biology Department, College of Sciences, Shiraz University, Shiraz Email: Marziye.hormozpour@gmail.com*

Background: Some components of Saliva officinalis (sage) such as thujone, cineole and camphor are responsible for its antioxidant and anti-cancer properties. In the present study, the effects of this herb on reproductive system of rats treated with the carcinogen was evaluated.

Methods: 46 Wistar adult female rats were divided into 4 groups. The control group, received 1ml distilled water daily for 1 month (Con). Saliva officinalis hydroalcoholic extract-treated group (Sage) was gavaged with 30mg/kg/body weight for 30 days, and cancer induced groups were gavaged with 20 mg DMBA dissolved in 20 ml sesame oil for 3 weeks then were divided into two groups of: fed daily with 1ml distilled water (Con-DMBA) and 1ml sage hydroalcoholic extract (Sage-DMBA). At the end of experiment, the uterus was removed and tissue sections were prepared. Diameter of different layers of and epithelial cells of uterus and number of uterine glands were measured.

Result: Height of epithelium and number of uterine glands significantly increased in sage group compared to the Con group but endometrial thickness and number of uterine glands decreased in sage-DMBA group compared to the Con-DMBA group.

Conclusion: Sage showed agonistic effect to estrogen and stimulated endometrial thickness but it acted as antagonist to estrogen when accompanied with DMBA (that has similar effect to estrogen) and decreased endometrial diameter and uterine gland number. Therefore, sage due to its phytoestrogen and antioxidant properties may be the best choice for uterine cancer prevention.

Keywords: 12 Dimethyl-benz[a]antheracene), Histomorphometery, Salvia officinalis (sage), Uterine cancer, DMBA (7

P125: Gene LIFR: freeway with several bands in the implantation

Atefe Abdoli [1], Alimohamad Ahadi [2], Maryam Nemati [3], Hoda Ayat [4], Mojtaba Emadi [5], Sanaz Bahadori [6]

1- Faculty of Science, Shahrekord University, Shahrekord, Iran
2- Assistant Professor, PhD of Genetics, Faculty of Science, Shahrekord University, Shahrekord, Iran
3- Assistant Professor, Ginaecologist, Faculty of Medicine, Medical Sciences University, Shahrekord, Iran
4- Assistant Professor, PhD of Genetics, Faculty of Science, Shahrekord University, Shahrekord, Iran
5- Assistant Professor, PhD of Genetics, Faculty of Science, Shahrekord University, Shahrekord, Iran
6- MSc Student, Genetics , Faculty of Science, Shahrekord University, Shahrekord, Iran

Corresponding Author: *Alimohamad Ahadi, Faculty of Science, Shahrekord University, Shahrekord, Iran Email: ahadi_al@sci.sku.ac.ir*

Background: Despite the progress in technology, infertility is one of the major health problems in the world. Infertility is defined as the inability to conceive after one year of regular unprotected intercourse; approximately, one in six couples wishing to start a family fall into this category. Implantation is a complex process by which the embryo attaches to the endometrium, first penetrating the endometrial epithelium and then invading the maternal circulatory system to form the placenta and many factors are involved in implantation among which we can refer the role of LIFR gene. LIFR acts as a low affinity signaling receptor for LIF. LIFR heterodimerizes with gp130 to form a high affinity complex. In this article, we have discussed about the role of this gene in the infertility.

Methods: For this purpose, we used Pubmed and Medline to identify the reports published in this field.

Result: Expression of this gene is variable in different days of the cycle. The results show that in the infertile patients, secretion of this gene decreased during the implantation in comparison to the fertile women.

Conclusion: Various studies have proved the relationship between this receptor and the molecules involved in implantation process.

Keywords: gp130, Implantation, LIF, LIFR, Infertility

P126: Resveratrol protects the testis in bisphenol A-treated rats; s stereological study

Hossein Bordbar [1] , Seyede saeedeh Yahyavi [2] , Elham Aliabadi [3] , Farzaneh Dehghani [4] , Ali Noorafshan [5]

1- Stereology and Histomorphometry Research Center, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran
2- Ms student of Anatomy, Stereology and Histomorphometry Research Center, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran;
3- Department of Anatomy, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran
4- Stereology and Histomorphometry Research Center, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran;
5- Anatomy Department,Histomorphometry and Stereology Research Centre, Shiraz University of Medical Sciences, Shiraz, Iran

Corresponding Author: *Ali Noorafshan, noora@sums.ac.ir*

Background: Bisphenol A (BPA) can endanger reproductive organ including testis. Resveratrol (RES) as a cell protectant component is the key element of grape seeds extraction. The objective was to evaluate the possible protective effect of RES on the BPA -treated rats on the testis structure and function.

Methods: Sprague-Dawley rats were assigned to seven groups: control, RES (100mg/kg/day dissolved in 1mL of carboxymethyl cellulose), carboxymethyl cellulose, low Bisphenol A (LBPA) (50mg/kg/day dissolved in 0.5mL of olive oil), hight Bisphenol A (HBPA) (100mg/kg/day dissolved in 0.5mL of olive oil), LBPA +RES, HBPA +RES and olive oil. All of the animals were sacrificed after 54 days. Testosterone serum level, semen parameters and testis of stereological structure were evaluated.

Result: Significant abnormalities from the normal range were occurred in testosterone serum level, semen parameters, LBPA and HBPA groups compared to the control rats (P

Conclusion: The bisphenol A can alter testicular structure and function. Resveratrol can protect the testis in the Bisphenol A -treated rats.

Keywords: Bisphenol A, Histochemistry, Rat, Resveratrol, Testis, Stereology

P127: The effects of graphene based scaffolds on motility of mouse spermatozoa

Samaneh Fayazi [1] , Mojtaba Dashtizad [2] , Ehsan Hashemi [3] , Sara Hashemi [4] , Diba Bagheri [5] , Forough Mahdavinezhad [6] , Maryam Mahdavisiuki [7] , Fatemeh Sarmadi [8]

1- Animal Biotechnology Division, National Institute of Genetic Engineering and Biotechnology, P.O. Box 14965-161, Tehran, Iran
2- Animal Biotechnology Division, National Institute of Genetic Engineering and Biotechnology, P.O. Box 14965-161, Tehran, Iran
3- Animal Biotechnology Division, National Institute of Genetic Engineering and Biotechnology, P.O. Box 14965-161, Tehran, Iran
4- Animal Biotechnology Division, National Institute of Genetic Engineering and Biotechnology, P.O. Box 14965-161, Tehran, Iran
5- Animal Biotechnology Division, National Institute of Genetic Engineering and Biotechnology, P.O. Box 14965-161, Tehran, Iran
6- Affiliation: Animal Biotechnology Division, National Institute of Genetic Engineering and Biotechnology, P.O. Box 14965-161, Tehran, Iran
7- Affiliation: Animal Biotechnology Division, National Institute of Genetic Engineering and Biotechnology, P.O. Box 14965-161, Tehran, Iran
8- Affiliation: Animal Biotechnology Division, National Institute of Genetic Engineering and Biotechnology, P.O. Box 14965-161, Tehran, Iran

Corresponding Author: *Samaneh Fayazi, samaneh_fayazi@yahoo.com*

Background: Motility is a particular feature of spermatozoa that enables it to reach a female gamete for fertilization. The sperm must be highly motile for an extended period of time. Recently, graphene, a flat monolayer of carbon atoms arranged in a two-dimensional hexagonal structure, has been introduced to serve as a biocompatible platform in biological fields. In this study, we evaluated motility and viability of spermatozoa on graphene surfaces at different times.

Methods: Natural graphite powder was applied to synthesize graphite oxide suspension by a modified Hummers' method. rGO sheets with various surface chemical states were achieved using hydrazine (N2H4) hydrothermal reactions and green tea polyphenols (GTPs). The spermatozoa were obtained from cauda epididymides of 10-12 week mouse dissected in Human Tubal Fluid (HTF) medium supplemented by bovine serum albumin (BSA). Then, spermatozoa were incubated on 96 well plate-based graphene scaffold in a 5% CO2 atmosphere at 37˚ C. The GO- and rGO-treated sperm motility and viability parameters were analyzed by computer-assisted sperm motility analysis software (CASA) after 1 and 2 hours.

Result: Our results showed although graphene scaffolds decreased both viability and motility (60±3

and 48±2.5 % respectively) of spermatozoa than control group (69±4.2 and 54±3.1) 1 hour after treatment, but after 2 hours, the viability and motility of spermatozoa (53±3.5 and 43±2.5) in treated group were more than control group (52±3.5 and 41±3.1).

Conclusion: These results revealed that graphene scaffold because of some poly phenole groups on surface, can improve viability and motility of spermatozoa.

Keywords: CASA, Spermatozoa motility, Graphene based scaffold

P128: Effect of different levels of soybean lecithin on freezability and fertility of goat spermatozo

Touba Nadri, Armin Towhidi [1]

1- Professor

Corresponding Author: *TOUBA NADRI, Email: T.NADRI@UT.AC.IR*

Background: Cryopreservation of semen is an efficient technique to save sperm cells, allowing the preservation of gene pools and expansion of desired reproductive merits through artificial insemination (Demianowicz and Strzezek, 1995). The freezing process may in turn damage sperm. Therefore, the presence of a cryoprotectant is necessary to preserve sperm during freezing. Egg yolk (EY) has long been used as a general extracellular cryoprotectant in mammalian semen extender since long time ago (Sharafi et al., 2009). In recent years, it has been established that EY, as a cryoprotectant, can present some problems and, therefore, research has been continuing. Egg yolk composition is altered by means of different factors such as breed and geographical region. Hence, preparation of a standard concentration of EY in semen extender is indeed very difficult (Gadea et al., 2004; Sharafi et al., 2009). Egg yolk has represented some problems, as it contains micro elements that might be responsible in increasing extender's viscosity, inhibition of sperm respiration and diminishing sperm motility (Sharafi et al., 2009). An alternative for replacing the components of animal's origin in semen extenders is the soy lecithin, a natural mixture of phosphatidylcholine and several fatty acids such as stearic, oleic, and palmitic. Therefore, the present study was planned to compare the efficiency of different levels of soybean lecithin with 15% egg yolk based extender on some post-thawed goat semen quality parameters.

Methods: Semen samples were collected twice a week using artificial vagina after stimulating with an estrus ewe during breeding season. Then, ejaculates were immediately transported to the laboratory and placed in a water bath at 37°C. Ejaculates were evaluated for volume (ml) using gradual test tube, progressive motility (%), sperm concentration (n×109 sperm/ml) by hemocytometer and evaluated for viability (%) using eosin- nigrosin staining. After preliminary evaluation and pooling the ejaculates in each replicate, samples were divided and diluted with the following extenders to a final concentration of 240 × 106 sperm/ml: (1) In control media, Tris- citric acid was supplemented with 15% egg yolk. (2) Tris-citric acid contained 1% soy lecithin, (3) Tris-citric acid contained 2% soy lecithin (4)Tris-citric acid contained 3% soy lecithin, and (5) Tris-citric acid contained 4% soy lecithin. Diluted semen samples were maintained at room temperature (~25 ◦C) for 5 min and then equilibrated at 4 ◦C for 2.5 h. After equilibration, semen samples were aspirated into 0.25 ml straws (IMV, L'Aigle, France) and sealed with PVA powder. In the next step, the straws were horizontally frozen in liquid nitrogen vapor, 4 cm above the liquid nitrogen, for 7 min. Thereafter, the straws were plunged into the liquid nitrogen for storage. For post-thawing sperm evaluation, the frozen straws were thawed at 37 ◦C for 30 s in a water bath. The study was repeated six times and data were presented as leastsquares mean (LSM) ± standard error of mean (SEM). Data were analyzed by GLM procedure using SAS 9.1 (SAS Institute, version 9.1, 2002, Cary, NC, USA).

Result: The results of this study showed that addition of 1% soy lecithin increased (P>0.05) progressive motility, viability, plasma membrane integrity and reduced apoptosis of spermatozoa after the freezing-thawing process compared to another Tris-citric acid containing soy lecithin extenders, although most of the post-thawed sperm quality parameters were not significantly different between EYT and L1% (P>0.05). It seems that Tris-citric acid containing 1% soy lecithin extender can be a suitable replacement for egg yolk tris-based extender.

Conclusion: The results of the current study showed that Tris -based extender containing 1% Soybean lecithin could improve post-thawed goat sperm

motility, viability, and functional membrane integrity when compared to controls (animal and plant-based). Tris-citric acid containing 1% soy lecithin extender can be a suitable replacement for egg yolk tris-based extender.

Keywords: Egg yolk, Fertility, Freezing, Goat, Sperm, Soybean Lecithin

P129: The investigation of treatment effects of Allium cepa on testis and spermatogenesis in infected rats with E.coli

Solmaz Shahverdi [1] , Arash Khaki [2] , Pourya Dadebeyglou [3]

1- Department of Pathobiology,Ahar Branch,Islamic Azad university,Ahar,Iran
2- Women's Reproductive Health Research Center of Tabriz University of Medical Sciences, Iran
3- Department of Pathobiology,Tabriz Branch,Islamic Azad university,Tabriz,Iran

Corresponding Author: *Pourya Dadebeyghlou, Department of Pathobiology,Tabriz Branch,Islamic Azad university,Tabriz,Iran, Email: pouria.dadebiglu@gmail.com*

Background: E.coli, a kind of bacillus gram negative from enterobacteriaceae families , which is common in the intestines of animals is the most common cause of urinary tract infection. It is the main factor of urinary infections in 90% of cases in young women.

Methods: Forty wistar rats were selected and randomly divided into four groups (n=10) of E.coli plus Allium cepa , E.coli, Allium cepa and control group. For E.coli+Allium cepa group, the bacterial strains in gavage form with the amount of 2cc Allium cepa fresh juice were given to the rats for four weeks.For Allium cepa group , the amount of 2cc allium cepa juice in gavage form were given to the rats for four weeks.For E.coli group the bacterial strain in gavage form were given to the rats for four weeks just once each week. At the end of period, testis and epididymis were removed.Sperm motility and the number and the changes of testicular tissue were investigated.

Result: The results of research showed that E.coli significantly caused vein congestion of testicular tissue, seminiferous tubules and decreased the amount of motility level of sperm (p

Conclusion: In group infected by E.coli under the treatment with allium cepa fresh juice, the amount of atrophy of testicular tissue and motility level and number of sperms were treated.

Keywords: E.coli , Epididymis , Rat , Sperm , Spermatogenesis, Testis

P130: The effect of vitamin E on the fertilization and embryogenesis of oocytes obtained from vitrified ovarian tissue in mice

Masomeh Farzollahi, Ali Abedelahi, Hamid Tayefi nasrabadi, Dariush Mohammadnejad

Corresponding Author: *Department of Anatomical Sciences, Faculty of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran, email: farzollahim@yahoo.com*

Background: Changing in physical and chemical condition of ovarian tissue during vitrification may cause oxidative stress and then follicular damage. For avoiding follicular damage, supplementation of antioxidant such as vitamin E is necessary. Therefore, the aim of this study was evaluating the protective effect of vitamin E on fertilization and development of embryos that obtained from vitrified ovarian.

Methods: Forty female balb/c mice after administration of 10 IU PMSG were sacrificed and were randomly divided to three groups: control or non-vitrified (n=10), CV1 (5, 10% EG +5, 10% DMSO) (n=15), CV2 (10, 15% EG +10, 15% DMSO) (n=15) with ascending concentration of cryoprotectants. After vitrificatin- warming mechanically the isolated antral follicles they were cultured in α-MEM medium supplemented with or without vitamin E (α-tocopherol) 100 µM for 4 days. The effect of vitamin E on oocyte and embryo development (two cells to blastocyst stage) was assessed. All data was compared by ANOVA (P

Result: The results of study showed that vitamin E supplementation of culture media significantly increased fertilization, two, four cells and blastocyst rates compared to non-supplemental media in vitrified groups (P

Conclusion: Vitamin E improves the percent of two and four cells and blastocyst formation in oocytes that derived from vitrified ovaries.

Keywords: In vitro culture, Vitamin E, Vitrification, Antral follicles

P131: Influence of BHT inclusion on post-thawed attributes of human semen

Marzieh Ghorbani [1] , Iraj Amiri [2] , Iraj Khodadadi [3] , Mojgan Atabakhsh [4]

1- Student Research Committee
2- Research Center for Molecular Medicine
3- Department of Biochemistry, Faculty of Medicine
4- Student Research Committee

Corresponding Author: *Heidar Tavilani, Urology and Nephrology Research Center, Hamadan University of Medical Sciences, Shaheed Fahmideh Ave., Hamadan, Iran, 6517838678. Tel:+98 8138381590. E-mail: tavilani@gmail.com*

Background: The aim of this study was to determine the effect of butylated hydroxytoluene (BHT) supplemented cryopreservation medium on sperm parameters during the freeze-thaw process. In addition, sperm lipid peroxidation, DNA damage, and the amount of reactive oxygen species (ROS) were determined.

Methods: Semen samples were obtained from 75 donors. Fifteen semen samples were used for optimizing BHT concentration and incubation time and 60 samples were used for the final experiments. After the determination of basic parameters, groups of three sample with similar parameters were pooled and processed by Pure Sperm gradient centrifugation. The semen samples were then diluted with normal freezing medium (control) or a medium containing 0.5mM BHT (test) for 5 minute and stored in liquid nitrogen. Frozen cryovials were thawed individually for 20 seconds in a water bath (37 C) for evaluation.

Result: Freezing extenders supplemented with 0.5mM BHT led to higher sperm motility and viability compared with control samples (p

Conclusion: Our results showed that the addition of BHT to the freezing medium could be of advantage in reducing ROS and preventing the detrimental effect of ROS on the human sperm function.

Keywords: MDA, Reactive oxygen species, ROS, Butylated hydroxytoluene

P132: Effect of pioglitazone on testicular spermatogenesis in neonatal mice from diabetic mothers

Azam Mousivand [1] , Mehri Azadbakht [2] , Hossein Zhaleh [3] , Soraya Sharifi [4]

1- Department of Biology, faculty of Sciences, Razi University, Kermanshah, Iran
2- Department of Biology, faculty of Sciences, Razi University, Kermanshah, Iran
3- Department of Biology, faculty of Sciences, Razi University, Kermanshah, Iran
4- Department of Biology, faculty of Sciences, Razi University, Kermanshah, Iran

Corresponding Author: *Department of Biology, Faculty of Sciences, Razi University, Kermanshah, Iran, email: azammousivand7@gmail.com*

Background: Diabetes is a disease characterized by a relative or absolute lack of insulin. Pioglitazone is a drug of the thiazolidinediones class that is used clinically for the treatment of diabetes and improves insulin action. It demonstrated that insulin-dependent diabetes affected testicular function. Therefore, considering the direct antioxidant effect of pioglitazone, we examined the effect of pioglitazone on spermatogenesis in neonatal mice from diabetic mothers.

Methods: Pregnant NMRI mice were allocated into 5 groups: non-diabetic control (no treated), diabetic control, diabetes + pioglitazone (10, 20 and 30 mg/kg per day; 3 weeks). Diabetes was induced by alloxan on day 7 of pregnancy (200 mg/kg, i.p). Then, the mice received different does of pioglitazone. 60 days after birth, the testes were harvested. Data was analyzed using One-Way ANOVA and Duncan test.

Result: Investigation of sperm parameters showed that diabetes reduced the sperm count, viability, motility, normal morphology compared to all groups. In contrast to significant decease in count and viability of sperm in different doses of pioglitazone compared to control, there was a significant increase in these parameters in comparison with to diabetic control. The sperm motility and morphology in dose of 10 mg/kg than to other dose of pioglitazone had not significant difference to non-diabetic control.

Conclusion: These results show that, pioglitazone can improves semen quality spermatogenesis in offspring

mice from diabetic mothers in a dose- dependent manner.

Keywords: Diabetes, Mouse., Spermatogenesis, Pioglitazone

P133: Study on the effects of tanacetum parthenium hydroalchoholic extract on spermatogenesis and sex hormone of NMRI mouse strain

Maryam Soleymani [1] , Fatemeh Siadat [2]

1- Department of biology, Faculty of Science, Islamic Azad University, Science and Research Branch, Tehran, Iran
2- Department of Biology, Faculty of Science, Islamic Azad University, Garmsar Branch, Garmsar, Iran

Corresponding Author: *Ramezani Mina,Department of Biology, Faculty of Science, Central Tehran Branch, Islamic Azad University, Tehran, Iran.m.ramezani@iauctb.ac.ir*

Background: Nowadays, tanacetum parthenium extract is available in pharmacies as tablet, capsule, or liquid forms and has extensive usage in treatment of many illnesses specially migraine. Therefore, study on the effects of hydro-alcoholic extract of tanacetum parthenium on spermatogenesis and male sex hormones was necessary.

Methods: In this experimental study, 30 male NMRI mice weighing about 35±40 g were divided into five groups of six. The control group received nothing, the sham group received distilled water, and the experimental groups received 50, 100, and 150 mg/kg b.w. hydro-alcoholic extract of tanacetum parthenium intraperitoneally. The experimental period was 14 days. After the last injection, mice were scarified and blood samples were collected from the heart for hormonal assay by ELISA method. The testis and epididymis were weighed and fixed for histological studies. Data were analyzed using one way ANOVA.

Result: In this study, there was no difference in testis and epididym weight between experimental and control group. In addition, there was not a significant decrease in seminiferous and epididymis epithelium diameter in experimental group compared with the control. Testosterone,dihydrotestosterone, follicle-stimulating hormone (FSH), and luteinizing hormone (LH) levels showed a significant decrease compared to the control group. Furthermore, the number of spermatid and spermatogonia declined in the experimental groups.

Conclusion: Hydro-alcoholic extract of tanacetum parthenium causes a significant decrease in plasma level of testosterone, dihydrotestosterone, FSH and LH. In addition, spermatogenesis process was affected by this extract. Therefore, in chronic consumption it should be used with caution.

Keywords: Gonadotropins, NMRI mice, Testis, Testosterone, Tanacetum Parthenium

P134: The protective role of vitamine E on semen parameters in busulfan-treated mice

Fatemeh Rohnavaz [1] , Tooba Mirzapour [2] , Abolfazl Bayrami [3]

1- Department of Biology, Faculty of Science, University of Mohaghegh Ardabili, Ardabil, Iran
2- Department of Biology, Faculty of science, University of Mohaghegh Ardabili. Ardabil
3- Department of Biology, Faculty of science, University of Mohaghegh Ardabili. Ardabil

Corresponding Author: *Tooba Mirzapour, Department of Biology, Faculty of Science, University of Mohaghegh Ardabili, Ardabil, Iran, Email: dr.tooba72@gmail.com*

Background: Infertility is the inability of a couple to conceive over an average period of one year with unprotected sexual intercourse. One of the drugs used for treatment of cancer is busulfan. It's a cytotoxic drug that has adverse effects on many body organs including reproductive system. Vitamin E is one of the most effective fat-soluble antioxidant that has important role on reduction of oxidative stress. In this study, the protective role of vitamin E on semen parameters has been investigated in busulfan-treated mice.

Methods: For this purpose, Intraperitoneal injection of different doses of busulfan (35 and 40 mg/kg body weight) was done on male mice for 30 days. Then, the mice exposed to the most damaging dose of busulfan (40 mg/kg) were chosen and injected by 100mg/kg vitamin E for another 30 days. After removal of testis, the tail of epididym was isolated and transferred to DMEM. The semen parameters were evaluated in these mice.

Result: The results showed that following busulfan treatment, a significant decrease was observed in sperm count and motility. Injection of vitamin E (100 mg/kg) to busulfan treated mice declined oxidative stress and increased sperm count profile. The abnormality of sperm was also decreased after injection of vitamin E.

Conclusion: Vitamin E as a non-enzymatic antioxidant prevents the adverse effects of busulfan. It improves the proliferation conditions in mice testis.

Keywords: Male infertility, Vitamin E, Busulfan

P135: Adipose tissue-derived mesenchymal stem cells repair germinal cells of seminiferous tubules of busulfan-induced azoospermic rats

Mohammad Amin Hassanshahi

Corresponding Author: *Mohammad Amin Hassanshahi, email: virumin@gmail.com*

Background: The aim of this study was to evaluate the germinal cells characteristics and repairs in seminiferous tubules of busulfan-induced azoospermic rats after AT-MSCs transplantation.

Methods: In the present experimental study, donors of AT-MSCs were isolated from subcutaneous adipose tissue of two Sprague-Dawley rats. The recipients (n = 5) received two doses of 10 mg/kg of busulfan with 21 days interval to stop endogenous spermatogenesis. After induction of azoospermia by busulfan, rats were injected with the AT-MSCs into the efferent duct of right testes. After 60 days, the right testes injected by AT-MSCs were compared to left azoospermic testes. Five untreated male rats were served as negative controls.

Result: After stereological analyses, the seminiferous tubules treated with AT-MSCs had normal morphology. The untreated seminiferous tubules were empty. Spermatogenesis was observed in most cell-treated seminiferous tubules.

Conclusion: The testis of busulfan-induced azoospermic rats accepted transplanted AT-MSCs. The transplanted AT-MSCs could induce spermatogenesis in seminiferous tubules of the rat.

Keywords: Azoospermia, Busulfan, Cell therapy, Mesenchymal stem cell, Rat, Adipose tissue

P136: The effect of soy milk on serum concentrations of 17- β estradiol in neonatal ovariectomized rat sprague- dawley strain

Mohammad Ebrahim Astaneh [1]

1- Department of Anatomy, Department of Basic Sciences, Faculty of Medicine, University of Medical Sciences, Fasa, Fasa, Iran

Corresponding Author: *Department of Anatomy, Department of Basic Sciences, Faculty of Medicine, University of Medical Sciences, Fasa, Fasa, Iran, email:meastaneh@yahoo.com*

Background: Phytoestrogens are plant derived compounds found in a wide variety of foods, most notably soy. The purpose of this study was to assess the effect of soy isoflavones on circulating 17-β estradiol in neonate ovariectomized rat.

Methods: Thirty female rats Sprague- Dawley strain (one-day old) were kept in a standard laboratory condition. Afterwards, they were randomly divided into six groups with 5 rats (a control, a sham and four experimental groups). The ovaries of one-week old experimental groups were removed by surgery. In experimental groups of 2,3 and 4, the rats received soy milk twice a day from the 14th day to the end of the second month 0.75, 1.5 and 3 ml/kg, respectively by gavage. At the end of two months, blood sampling was prepared to measure estrogen hormone.Data were analyzed by one way ANOVA and Duncan as post-hoc test. The level of significance was considered at P

Result: Our data showed that ovariectomy significantly ($P < 0.05$) reduced serum 17-β estradiol. Application of soy in doses 0.75 and 1.5 ml/kg/day following ovariectomy had no significant effect relative to ovariectomy without application of soy, but application of soy in dose of 3ml/kg/day significantly ($P < 0.05$) increased 17-β estradiol relative to ovariectomy without application of soy. Also, there was no significant difference between dose of 3ml/kg/day in the treatment group and control and sham group.

Conclusion: The soy milk isoflavone can compensate the 17-β estradiol decrease in ovariectomized rat.

Keywords: 17- β Estradiol, Ovariectomized, Rat, Soy milk

P137: Effects of DEHP and MEHP administrations on oocyte meiotic maturation, apoptosis and gene quantification in mouse model

Sadegh Saremi [1], Esraphil Mansouri [2], Mahin Taherimoghadam [3], Alireza Eftekhari moghadam [4], Razie Ghanavati [5]

1- Cellular and Molecular Research Center, Faculty of Medicine, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran
2- Cellular & Molecular Research Center, Faculty of Medicine, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran
3- Cellular & Molecular Research Center, Faculty of Medicine, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran
4- Cellular & Molecular Research Center, Faculty of Medicine, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran
5- Medical faculty, Molecular Biology and development department, Kazerun Islamic Azad University, Kazerun, Iran

Corresponding Author: *Cellular and Molecular Research Center, Faculty of Medicine, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran, email: forouzan_absalan@yahoo.com*

Background: The purpose of this study was to evaluate the effect of mono-(2-ethylhexyl) phthalate (MEHP) and di-(2-ethylhexyl) phthalate (DEHP) oral administration on maturation of mouse oocytes, apoptosis and gene transcription levels.

Methods: Immature oocytes recovered from NMRI mouse strain (6-8 weeks) were divided into seven different experimental and control groups. Experimental groups I, II or III oocytes were retrieved from mice treated with 50, 100 or 200 µl DEHP (2.56 µM) solution, respectively. Experimental groups IV, V or VI oocytes were retrieved from mouse exposed to 50, 100 or 200 µl MEHP (2.56 µM) solution, respectively. Control group oocytes were retrieved from mice that received only normal saline. Fertilization and embryonic development were carried out in OMM and T6 medium. Apoptosis was assessed by annexin V-FITC/Dead Cell Apoptosis Kit with PI staining. In addition, the mRNA levels of Pou5f1, Ccna1 and Asah1 were examined in oocytes. Finally, mouse embryo at early blastocyst stage was stained with acridine-orange (AO) and ethidium-bromide (EB) in order to access viability.

Result: The proportion of oocytes that progressed up to metaphase II (MII) and 2-cell embryo formation stage was significantly decreased by exposure to MEHP or DEHP, in a dose related pattern. Annexin V and PI positive oocytes showed greater quantity in treated mice than controls. Quantitative RT-PCR revealed that expression levels of Pou5f1, Asah1 and Ccna1 were significantly lower in treated mouse oocytes than controls. The total cell count for blastocyst developed from the treated mouse oocytes was lower than the controls.

Conclusion: These results indicate that oral administration of MEHP and DEHP could negatively affect mouse oocyte meiotic maturation and development in vivo, suggesting that phthalates could be risk factors for mammalians' reproductive health. Phthalate-induced changes in Pou5f1, Asah1 and Ccna1 transcription level explain in part the reduced developmental ability of mouse-treated oocytes.

Keywords: Apoptosis, Gene expression, Oocyte maturation, Phthalates

P138: Study of effects of ELF-EMF on sexual organs in neonatal rats

Hamideh Gharamaleki [1]

1- Department of Anatomical Sciences, Faculty of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran

Corresponding Author: *Department of Anatomical Sciences, Faculty of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran, email: Hamideh.gharamaleki@gmail.com*

Background: Human beings are unavoidably exposed to ambient electromagnetic fields (EMF) generated from various electrical devices and from power transmission lines. Controversy exists about the effects of EMF on various organs. The aim of this work was to evaluate the effects of intrauterine exposure to 50Hz electromagnetic field (EMF) on testicular and ovary development.

Methods: Pregnant wistar rats were exposed to 3mT, EMF for 21 days, 4 hours/day. Pregnant rats were under the same condition of treatment group, but off the field as a sham group intended and pregnant rats were used as control in the room. After delivery, testis and ovary were removed from male and female pups, fixed and prepared for light microscopic studies.

Result: Microscopic results revealed seminiferous tubules in treatment group in comparison with the control and sham groups and they were widely separated from each other; in this group in

seminiferous tubules, vacuolization and decreasing in interstitial tissue were found. The ovary of the treatment group in comparison to control group showed that oocyte nests were mostly broken and irregularly arranged.

Conclusion: In general, as a result of the exposure to EMF during early developmental period, morphological changes in testicular and ovary development were evident that may well extend till adult stage and may affect fertility.

Keywords: Neonatal, Rats, Sexual organs, ELF-EMF

P139: Protection against brain tissues oxidative damage as a possible mechanism for improving effects of low doses of estradiol on scopolamine-induced learning and memory impairments in ovariectomized rats

Sareh Karimi [1]

1- Shahid sadoghi medical univesity

Corresponding Author: *No. 5, shafa blv, shafa 38, Mashhad, Iran, email: karimisareh@yahoo.com*

Background: Regarding the anti-oxidative effects on the central nervous system, the possible protection against brain tissues oxidative damage as a possible mechanism for improving effects of low doses of estradiol on scopolamine- induced learning and memory impairments were investigated in ovariectomized rats.

Methods: The ovariectomized rats were divided: (1) Ovariectomized (OVX), (2) Ovariectomized – Scopolamine (OVX-Sco), (3) Ovariectomized - Scopolamine - Estradiol 20 (Sco-Est 20) and (4) Scopolamine- Estradiol 60 (Sco-Est 60). Estradiol was administered (20 or 60 µg/kg; IP) daily for 6 weeks after ovariectomy. Scopolamine(2mg/kg) was injected 30 min after training in the test.

Result: The time latency to enter the dark compartment in OVX-Sco group was higher than OVX group ($P < 0.01$). Pre-treatment by both doses of estradiol prolonged the latency to enter the dark compartment compared to OVX-Sco group ($P< 0.01$). The brain tissues malondialdehyde concentration as an index of lipid peroxidation increased while, thiol content decreased in OVX-Sco group compared to Sco group ($P < 0.05$). Pre-treatment by estradiol lowered the concentration of MDA while, increased thiol content compared to OVX-Sco group ($P < 0.05$- $P < 0.01$).

Conclusion: These results allow us to suggest a protection against brain tissues oxidative damage as a possible mechanism for improving effects of low doses of estradiol on scopolamine- induced learning and memory impairments in OVX rats.

Keywords: Estradiol, Low dose, Memory, Oxidative damage, Scopolamine

P140: The teratogenic effects of aqueous extract of ephedra major on Balb/C mouse embryos during the 7Th to 10Th days of pregnancy

Safoora Saffari [1] , Parvin Torabzadeh [2] , Seyed Morteza Mousavi dohooii [3]

1- Department of Developmental Biology, Karaj Branch, Islamic Azad University, karaj, Iran.
2- Department of Developmental Biology, Karaj Branch, Islamic Azad University, karaj, Iran.
3- Department of Developmental Biology, Karaj Branch, Islamic Azad University, karaj, Iran.

Corresponding Author: *Parvin Torabzadeh p.torabzadeh@gmail.com*

Background: Aqueous extract of Ephedra major in addition to energizing is used as a drug for blood pleasure ,sleep disorder, muscular weakness and lose weight. But its effects on the body especially during pregnancy has not been reviewed. Therefore, in the study, teratogenic effects of aqueous extract of Ephedra major on Balb/C mouse embryos during 7Th to 10Th days of pregnancy were evaluated.

Methods: In this study, 50 female Balb/C mice were randomly divided into 6 equal groups of acontrol group (non- injection) and witness (injection of saline) and 4 experimental groups. Lethaldose LD50 was determined in condition of 3086 mg/kg.bw in vivo and selected dose for injection was 300 mg/kg.bw. Injection was done on the seventh to tenth days by enema. For security of results, above experiences were repeated three times. Data was checked with SPSS21 software and Duncan test (P

Result: After a comparative study of abnormalities, exohepatic, exancephal pustules, asymmetry of head, eye abnormalities (absence of the lens), deviation and absence of limbs, bleeding in various parts of the embryos, and deviation of the spine were observed. At this dose, a significant decrease (P

Conclusion: According to this observations, it can be concluded that aqueous extract of ephedra major causes abortion and using this herb is dangerous during pregnancy and may be used as a contraceptive pill in the future.

Keywords: Abortifacient , Anomalies, Mouse embryo, Ephedra major

P141: Effect of L-arginine on human umbilical vein endothelial cells (HUVEC) and BT-20 in the presence of 5-flourouracil

Mozhgan Jahani [1] , Mehri Azadbakht [2] , Kamran Mansouri [3]

1- Department of Biology, Faculty of Sciences, Razi University, Kermanshah, Iran
2- Department of biology, Faculty of sciences, Razi University, Kermanshah, Iran
3- Medical Biology Research Center, Kermanshah University of Medical Sciences, Kermanshah, Iran

Corresponding Author: *Department of Biology, Faculty of Sciences, Razi University, Kermanshah, Iran, email: mojganjahani2@gmail.com*

Background: Cancer occurrence in pregnancy is almost rare but as fertility age rises, this possibility increases. Developing a whole functional vascular network is a vital process for growth and survival in the fetus. 5-fluorouracil as an anti-metabolite chemotherapy medication will inhibit embryogenesis by reducing the cell survival. Due to L-arginine dual effects on cell survival, we investigated the effect of L-arginine and 5-fluorouracil on the survival of Human Umbilical Vein Endothelial Cells (HUVEC) and BT-20 cancer cell line.

Methods: HUVEC and BT-20 cell lines were cultured for 48 hours in the presence of different concentrations of L-arginine (200, 400, 800, 1600, 3200 and 6400 µg / mL) and 5- fluorouracil (2, 4, 6, 8, 12 µg / mL), then MTT test was carried out to investigate the survival of cell lines.

Result: MTT assay showed 5-fluorouracil in all concentrations caused a meaningful dose dependent increase in HUVEC cell death, so that most frequency of cell death was observed in 12 µg/mL concentrations of this medication. Use of L-arginine (800, 1600, 3200 µg/mL) alone and in combination with 5-fluorouracil (12 µg/mL) showed a significant increase in HUVEC cell survival. However L-arginine alone and co-applying both drugs increased BT-20 mortality.

Conclusion: L-arginine as a drug safely used in pregnancy could be considered as an appropriate candidate for being co-prescribed with 5- fluorouracil as a chemotherapy drug.

Keywords: 5- fluorouracil, BT-20, HUVEC, L-arginine

P142: Study on the effects of tanacetum parthenium hydroalchoholic extract on sex hormones of NMRI mouse

Maryam Soleymani [1] , Fatemeh Siadat [2]

1- Department of biology, Faculty of Science, Islamic Azad University, Science and Research Branch, Tehran, Iran
2- Department of Biology, Faculty of Science, Islamic Azad University, Garmsar Branch, Garmsar, Iran

Corresponding Author: *Ramezani Mina,Department of Biology, Faculty of Science, Central Tehran Branch, Islamic Azad University, Tehran, Iran.m.ramezani@iauctb.ac.ir*

Background: Nowadays, tanacetum parthenium extract is available in pharmacies as tablet, capsule, or liquid forms and has extensive usage in treatment of many illnesses specially migraine. Therefore, the study on the effects of hydro-alcoholic extract of tanacetum parthenium on spermatogenesis and male sex hormones was necessary.

Methods: In this experimental study, 30 male NMRI mice weighing about 35±40 g were divided into five groups of six. The control group received nothing, the sham group received distilled water, and the experimental groups received 50, 100, and 150 mg/kg b.w. hydro-alcoholic extract of tanacetum parthenium intraperitoneally. The experimental period was 14 days. After the last injection, mice were scarified and blood samples were collected from the heart for hormonal assay by ELISA method. The testis and epididymis were weighed and fixed for histological studies. Data was analyzed using one way ANOVA.

Result: In this study, there was no difference in testis and epididym weight between experimental and control group. In addition, there was no significant decrease in seminiferous and epididymis epithelium diameter in experimental group compared with the control. Testosterone,dihydrotestosterone, follicle-stimulating hormone (FSH), and luteinizing hormone (LH) levels showed a significant decrease compared to the control group. Furthermore, the number of spermatid and spermatogonia declined in the experimental groups.

Conclusion: Hydro-alcoholic extract of tanacetum parthenium causes a significant decrease in plasma level of testosterone, dihydrotestosterone, FSH and LH. In addition, spermatogenesis process was affected by this extract. Therefore, in chronic consumption it should be used with caution.

Keywords: Gonadotropins, NMRI mice, Testis, Testosterone, Tanacetum Parthenium

P143: Proliferative ability of human spermatogonial stem cells in in-vitro condition

Mohammad Shakiba [1] , Fateme Nikfar [2] , Javad Dashtban [3] , Elmira Gol cheshme [4] , Shima Monavaryan [5] , Kambiz Abdi [6] , Matin Ghadiri [7]

1- Science and Research Branch, Islamic Azad University, Central Tehran, Iran
2- Science and Research Branch, Islamic Azad university, central Tehran, Iran -
3- Science and Research Branch, Islamic Azad university, central Tehran, Iran -
4- Science and Research Branch, Islamic Azad university, central Tehran, Iran -
5- Science and Research Branch, Islamic Azad university, central Tehran, Iran -
6- Science and Research Branch, Islamic Azad university, central Tehran, Iran -
7- Science and Research Branch, Islamic Azad university, central Tehran, Iran -

Corresponding Author: *Department of Science ,Science and Research Branch, Islamic Azad university, Central Tehran, Iran, email: m_shakiba78@yahoo.com*

Background: The primordial spermatogonia can resume spermatogenesis process after testicles damages caused by poisonous materials or after their cell fusion with an infertile receptor cell. Therefore, the self-renewal of these cells guarantees the preservation of their cell population and results in protection of fertility. Distinction of primordial spermatogonia markers makes the separation of this cell population possible . Preservation and cell culture of the primordial spermatogonia has been propounded as a method to treat some infertility disorders in human in the future.

Methods: Isolation and purification of human spermatogonial stem cells cultured in vitro was the method of this study.

Result: Culture spermatogonial stem cells, in addition to helping understand the molecular mechanisms of self-renewal, are a perfect tool to discover new treatments for some infertile men or for patients undergoing chemotherapy / radiotherapy, before or after puberty.

Conclusion: Spermatogenesis is set by endocrine factors and growth factors autocrine / paracrine testicular set. These factors are sertoli cells, germ cells, the tubular cells and interstitial cells and mainly macrophages . Interaction between sertoli cells and germ cells in the proportion of seminiferous tubules succeeds in spermatogenesis. In order to culture spermatogonial stem cells, the researchers tried to overcome some obstacles, including the small number of stem cells in the testes, the lack of specific markers to identify spermatogonial stem cells in culture. These cells are difficult to be kept alive. Recently, a number of important growth factors such as LIF, SCF and GDNF for proliferation and differentiation of spermatogonial stem cells, have been identified. The identified markers for these cells have been reported. Several research groups in the field of long-term cultivation and enrichment of spermatogonial stem cells have gained some success.

Keywords: Cell cultur

P144: Fertility health and using non-steroidal anti-inflammatory drug (An experimental design)

Nahid sadat Jahanpour [1]

1- Shiraz Educational Department, Shiraz ,Iran

Corresponding Author: *Kazerun Azad University, Kazerun, Iran, email: f_jahanpour@yahoo.com*

Background: Celecoxib is a form of non-steroidal anti-inflammatory drug (NSAID) that directly targets COX-2, an enzyme responsible for inflammation and pain, and it is the main feature of celecoxib. The goal of this survey was to assess the effect of celecoxib on male reproductive system functions.

Methods: The goal of this experimental survey was to determine the effect of celecoxib on rat reproductive system, on spermatogenesis and the level of blood testosterone hormone. Histological studies and measuring of weight (testis, prostate, seminal vesicle and epidydimis) and the level of blood testestron were done. Fifty rats with 200-230 gr. weight were selected and compared in 5 groups. Control group (no drug given), sham group (solvent drug: Di- methyl sulfoxide), 3 cases group (orally celecoxib 10, 20 and 40mg/kg given daily) were the cases during 15 days of treatment. In the end of 15 days heart blood sampling for measuring serum testosterone level was accomplished and after that reproductive systems were separated and prepared for histological study.

Result: Differences in sertoli cells were seen in control and case groups. So that in case group (40mg/kg), number of sertoli cells decreased due to decrease in testestron level. This can cause production of abnormal sperms. Significant differences were seen in the mean weight of prostate per body weight in case group (40mg/kg) in comparison with control group.

Conclusion: Decreased testosterone hormone was seen in male rat after using high doses of celecoxib.

Keywords: Infertility, Male, Testis, Non steroidal anti inflammatory drug

P145: Effects of Nano Selenium on Liquid Storage of Rooster Semen in Modified Beltsville Extender

Soroush Safa [1] , Gholamali Moghaddam2 [2] , Hossein Daghigh Kia [3] , Hossein Janmohammadi [4] , Aytak Bakhshayesh Khiabani [5] , Tahereh Meroei Milan [6]

1- Ph.D candidate of Animal physiology in University of Tabriz
2- Professor of Veterinary science in University of Tabriz
3- Associate Professor of Animal Physiology in University of Tabriz
4- Associate Professor of Poultry nutrition in University of Tabriz
5- MSc student of Animal physiology in University of Tabriz
6- MSc student of Animal physiology in University of Tabriz

Corresponding Author: *Department of Animal Science, University of Tabriz, Tabriz, Iran, email: soroushsafa@tabrizu.ac.ir*

Background: The practice of artificial insemination is widely utilized in poultry; and this requires a broad use of semen storage techniques to prevent the reduction of fertilizing ability of stored semen. It has been suggested that antioxidant's addition to semen can improve sperm motility and viability during cold storage. Selenium is a constituent of selenoproteins such as glutathione peroxidase (GSH-Px) that protect against oxidative damage to spermatozoa. Studies on Nano Selenium (Nano-Se) confirm its efficacy on inducing selenoproteins with lower toxicity (vs. selenium) and acceptable bioavailability. The present study was designed to evaluate the effect of Nano Selenium on the quality of rooster semen stored at 4 ° C.

Methods: Semen was collected from ten white Leghorn roosters twice a week. Ejaculates with greater than 80% forward spermatozoa motility were pooled and after dilution semen (with modified Beltsville extender) was enriched with 0 (control), or 0.5%, 1% and 2% Nano-Se. Forward spermatozoa progressive motility and viability, as well as sperm abnormality were evaluated at 0, 24, and 48 h of storage.

Result: Forward motility was 78.76, 80.74, and 67.56% (± 1.75) at 24 h and 62.83, 63.32 and 58.03% (± 1.90) at 48 h in 0.5% Nano-Se, 1% Nano-Se and control, respectively (P

Conclusion: Enrichment of rooster semen with small doses of Nano-Se has beneficial effects on the semen quality during cold storage.

Keywords: Liquid storage, Rooster, Semen, Nano selenium

P146: The effects of nano selenium on rooster's post-thawed sperm quality in modified beltsville extender

Soroush Safa [1] , Gholamali Moghaddam [2] , Hossein Daghigh Kia [3] , Hossein Janmohammadi [4] , Tahereh Meroei Milan [5] , Aytak Bakhshayesh Khiabani [6]

1- University of Tabriz, Tabriz, Iran
2- Professor of Veterinary science in University of Tabriz
3- Associate Professor of Animal Physiology in University of Tabriz
4- Associate Professor of Poultry nutrition in University of Tabriz

5- MSc student of Animal physiology in University of Tabriz
6- MSc student of Animal physiology in University of Tabriz

Corresponding Author: *Department of Animal Science, University of Tabriz, Tabriz, Iran, email: soroushsafa@tabrizu.ac.ir*

Background: Semen cryopreservation is very important for the ex situ management of genetic diversity in birds but it is rarely used. As previously reported, sperm motility and viability are the most commonly affected characteristics during cryopreservation and thus are the main causes for the reduced fertility after freezing/thawing processes. It has been suggested that antioxidant's addition to semen before cryopreservation can improve sperm motility and viability during freezing/thawing processes. Selenium is a constituent of selenoproteins such as glutathione peroxidase (GSH-Px) that protect against oxidative damage to spermatozoa. Studies on Nano Selenium (Nano-Se) confirm its efficacy on inducing selenoproteins with lower toxicity (vs. selenium) and acceptable bioavailability. The present study was conducted to determine the effects of different levels of nano selenium on some post-thawed rooster semen quality parameters.

Methods: Semen samples from 10 sexually-mature white Leghorn roosters were collected and pooled, divided into four equal parts and diluted with Beltsville extender with no Nano-Se (control), or 0.5%, 1% and 2% Nano-Se. The sperm motility and progressive motility after thawing was assessed by CASA. Also sperm viability were assessed by Eosin-Nigrosin staining. The data were analyzed by the GLM procedure of SAS 9.1.

Result: Using Nano-Se at 0.5% and 1% significantly increased sperm motility (67.5 and 71.25%, respectively; P≤ 0.05), progressive motility (15.48 and 16.23%, respectively; P≤ 0.05) and viability (70.46 and 72.52%, respectively; P≤ 0.05) in compared with control. But 2% Nano-Se had deleterious effects on rooster semen.

Conclusion: Results of this study revealed that addition of 0.5% and 1% Nano-Se to the extender for freezing of rooster semen can improve significantly the function of post-thawed rooster spermatozoa.

Keywords: Antioxidant, Cryopreservation, Nano selenium, Rooster, Sperm motility

P147: Hydralazine can reduce spermatotoxic effects of doxorubicin in mice

Negar Asadollahi [1]

1- Department of Biology, Faculty of Sciences, Razi University, Kermanshah, Iran

Corresponding Author: *Department of Biology, Faculty of Sciences, Razi University, Kermanshah, Iran, email: negsina92@gmail.com*

Background: The effect of chemotherapeutic drugs on fertility in man has become an increasingly important medical problem. Doxorubicin is one of the most popular anticancer drugs widely used for the treatment of a variety of cancers. However, its activity is not specific to cancer cells and may also harm healthy cells, especially those undergoing rapid proliferation such as spermatogonia. The aim of this study was to investigate whether the hydralazine with potent anti-oxidant properties and prolyl hydroxylase domain-containing protein (PHD) inhibitory, could protect spermatogenesis in testes from such doxorubicin injury.

Methods: Male NMRI mice were divided into four treatment groups (n=16). Control (normal saline, i.p), doxorubicin (3mg/kg, i.p. on days 7, 14 and 21), hydralazine (5mg/kg, i.p for 21days), hydralazine-doxorubicin (i.p injection of hydralazine starting 7 days before the first application of doxorubicin and continued for 21 days and doxorubicin injection on days 7,14,21. Each dose of doxorubicin was given 1 hour post hydralazine). Mice were kept for 21 and 64 days after first treatment (group 1 and group 2, respectively). At the end of the experimental periods, animals were sacrificed by cervical dislocation. Data was analyzed using One-Way ANOVA and Duncan test (version 20.SPSS Inc. United States).

Result: Doxorubicin caused significant decreases in sperm count, viability, motility along with elevated sperm abnormality. There was also a demonstrable worsening effect on all sperm parameters mentioned above with passage of time following doxorubicin administration in group 2. In contrast, the combined treatment of hydralazine with doxorubicin effectively provided marked normalization in the sperm quantity and quality compared to the doxorubicin -only treated mice in both groups.

Conclusion: These results demonstrate that doxorubicin has worsening effect on all sperm parameters with passage of time and hydralazine can reduce spermatotoxic effects of doxorubicin in both groups.

Keywords: Chemotherapy, Hydralazine, Mice, Sperm, Doxorubicin

P148: Correlation between follicular and luteal ovarian cysts with blood sugar, insulin and IGF-1 in multiparous cows

Fatemeh Jamali [1] , Akbar Pirestani [2]

1- Department of Animal Science, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran
2- Department of Animal Science, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran.

Corresponding Author: *Department of Animal Science, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran *E-mail Address: a.pirestani@khuisf.ac.ir*

Background: The aim of study was detecting the relationship between composition of follicular and luteal ovarian cysts with blood sugar, insulin and IGF-1 in multiparous cows.

Methods: Twenty multiparous Holstein cows (more than two calving) on the basis of ultrasonography observations were divided to two groups of follicular and luteal cysts, randomly. Follicular fluid of cysts and blood samples were collected by aspiration of cyst from gluteal area and coccygeal vein, respectively and then, level of estrogen and progesterone hormones, glucose, insulin and IGF-1 was evaluated.

Result: The result of study showed that concentration of estradiol was significantly different in follicular fluid and blood serum at the follicular cyst compared to the luteal cyst ($p\leq0.05$). Concentration of progesterone was significantly different in follicular fluid at the luteal cyst compared to the follicular cyst ($p\leq0.05$). Also, concentration of insulin and IGF-1 was significantly different in follicular fluid at the luteal cyst than to the follicular cyst ($p\leq0.05$) but not significant in blood serum. The correlation coefficient of IGF-1 was positive in the follicular fluid of luteal cyst then to blood serum (0.635) , but other compositions were negative. On base of LSD test, comparison of estradiol, insulin and IGF-1 concentrations were significantly different in follicular fluid of follicular and luteal cysts ($p\leq0.05$). However, comparison of estradiol concentration was significantly different in blood serum of follicular and luteal cysts ($p\leq0.05$).

Conclusion: It is concluded that concentration of estradiol, insulin and IGF-1 was correlated with follicular and luteal cysts.

Keywords: Blood sugar, IGF-1, Insulin, Multiparous cows, Ovarian cysts

P149: The effect of zinc in extender of Afshari ram sperm at freezing and thawing condition

Farhad Naderi Ghashghaei [1] , Akbar Pirestani [2]

1- Department of Animal Science, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran.
2- Department of Animal Science, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran.

Corresponding Author: *Department of Animal Science, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran *E-mail Address: a.pirestani@khuisf.ac.ir*

Background: The aim of this study was to investigate the effect of zinc (mineral and organic) in Afshari ram sperm at freezing and thawing condition.

Methods: In this study, 4 Afshari rams (about 2 years, with an average weight of 55± 0.8 kg) were selected and semen was collected by electeroejacultion at seasonal breeding. After initial confirmation of sperm, dilution was done with extender in order to ensure proper quality. The treatments were divided as control group (basic extender), treatment of base extender containing the organic zinc 50, 100, 150 ppm (Met-Zn), and mineral zinc 50, 100, 150 ppm (ZnSo4). Sperm motility was estimated in pre freeze and post thaw stages by CASA software. Also, sperm morphology and viability were evaluated by papanicolaou and eosin-nigrosin staining, respectively.

Result: The result showed that progressive motility was significantly higher in the group of 50 ppm Met-Zn at pre freeze and post thaw stage ($p\leq0.05$). The total motility was significantly higher in the group of 100 ppm Met-Zn ($p\leq0.05$). Also, the highest level of live and normal sperm was in the group of 50 and 100 ppm Met-Zn, respectively ($p\leq0.05$).

Conclusion: Overall, organic zinc had beneficial effect on the maintenance of sperm membrane, sperm health and progressive motility in the extender compared to mineral zinc. Thus, the extender containing organic zinc (50 and 100 ppm) can improve reproductive sheep industry in the future.

Keywords: Afshari rams, Extender, Sperm, Zinc

P150: Investigation of lavendula officinalis aquatic extract on reproductive system in female adult balb/c mice

Fatemeh Soheili [1] , Parvin Torabzadeh [2] , Mina Ramezani [3]

1- Department of Biology, Faculty of Science, Islamic Azad University, Karaj Branch, Karaj, Iran
2- Department of Biology, Faculty of Science, Islamic Azad University, Karaj Branch, Karaj, Iran.
3- Department of Biology, Faculty of Science, Central Tehran Branch, Islamic Azad University, Tehran, Iran.

Corresponding Author: *p.torabzadeh@gmail.com*

Background: Lavendula officinalis herb, a queous extract in addition to the sedative properties ,affects diabetes and depression.But its effects on reproductive system have not been reviewed .Therefore in this study, the effect of Lavendula officinalis aquatic extract on reproductive system in female adult balb/c mice was reviewed.

Methods: At first, aqueous extract was taken and LD50 was determined and when lack of symptoms of lethal was observed, experiment was continued with selected doses of 100,200,300 mg/kg.bw. Injection was done on the 12 days by enema. At the same time with the experimental groups,a control group (non-injection)and witness (injection of saline)for comparison of results were evaluated. For security of results, the above experiences were repeated three times.Data was checked with SPSS 21 software and Duncan test with significance at P

Result: In all experimental groups, a significant decrease in body weight was observed (P

Conclusion: According to the observations, it can be concluded that lavendula officinalis herb aqueous extract has damaging effect on female reproductive system and may be used as a contraceptive pill in future.

Keywords: Female adult mice, Reproductive system, Infertility, Lavendula officinalis, Ovary, Uterus

P151: Arginine-phenylalanine amide related peptide-3 (RFRP-3) mRNA expression decreased in constant light induced polycystic ovary syndrome nulliparous rats

Zahra Shaban1 [1] , Mohammad Reza Jafarzadeh Shirazi [2] , Mohammad Hossein Nooranizadeh [3] , Farhad Rahmanifar [4] , Amin Tamadon [5] , Somayeh Ahmadloo [6] , Amin Ramazani [7] , Iman Razeghian Jahromi [8] , Omid Koohi Hosseinabadi [9]

1- Department of Animal Sciences, College of Agriculture, Shiraz University, Shiraz, Iran.
2- Department of Animal Sciences, College of Agriculture, Shiraz University, Shiraz, Iran
3- Transgenic Technology Research Center, Shiraz University of Medical Sciences, Shiraz, Iran
4- Department of Basic Sciences, School of Veterinary Medicine, Shiraz University, Shiraz, Iran
5- Transgenic Technology Research Center, Shiraz University of Medical Sciences, Shiraz, Iran
6- Transgenic Technology Research Center, Shiraz University of Medical Sciences, Shiraz, Iran
7- Department of Medical Biotechnology, School of Advanced Medical Sciences and Technology, Shiraz University of Medical Sciences, Shiraz, Iran.
8- Transgenic Technology Research Center, Shiraz University of Medical Sciences, Shiraz, Iran
9- Laboratory Animal Center, Shiraz University of Medical Sciences, Shiraz, Iran

Corresponding Author: *Department of Animal Sciences, College of Agriculture, Shiraz University, Shiraz, Iran, e-mail: z.shaban91@yahoo.com*

Background: Arginine-phenylalanine amide related peptide-3 (RFRP-3) has an inhibitory effect on gonadotropin releasing hormone (GnRH) release. On the other hand, frequency and amplitude disturbances of GnRH influence the occurrence of polycystic ovary syndrome (PCOS). Therefore, the present study assessed mRNA expression of RFRP-3 in dorsomedial hypothalamic nucleus (DMH) after induction of PCOS in rat model.

Methods: Twenty four female rats were divided into two nulliparous and primiparous and were subdivided into control and PCOS subgroups (n=6). PCOS was induced by 90 days exposure to constant light. The number of different antral follicles and corpora lutea were counted after staining of ovaries with hematoxylin-eosin. The diameter of granulosa and

theca layer, total diameter of follicles and their antrum were measured. Six adult female rats as a control of real-time PCR tests were ovariectomized. The relative gene expression of RFRP-3 was assessed using real-time PCR. The data were analyzed by one-way ANOVA and LSD post hoc test (P≤0.05, SPSS 22).

Result: Number of tertiary and atretic follicles in the PCOS groups were more than the controls, but the number of secondary follicles and corpus luteum in the PCOS subgroups was less than controls (P0.05).

Conclusion: Constant light induction of PCOS in rats reduced RFRP-3 gene expression in the DMH of nulliparous rats.

Keywords: Dorsomedial hypothalamic nucleus, Parity, Rat, RFamide-related peptide-3, Polycystic ovary syndrome

P152: Morphine has detrimental effects on sperm parameters and chromatin quality in mice epididymal sperm

Hasan Bahari [1] , Ali Reza Talebi [2] , Hossein Nahangi [3] , Morteza Anvari [4] , Abolghasem Abbasi Sarcheshmeh [5]

1- Department of Biology and Anatomy, Faculty of Medicine, Shahid Sadoughi University of Medical Sciences, Yazd, Iran
2- Research & Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.
3- Department of Biology & Anatomy, Faculty of Medicine, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.
4- Research & Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.
5- Department of Biology & Anatomy, Faculty of Medicine, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.

Corresponding Author: *Ali Reza Talebi, Department of Biology and Anatomy, Faculty of Medicine, Shahid Sadoughi University of Medical Sciences, Yazd, Iran Email: prof_talebi@hotmail.com Tel: (+98)9131532174*

Background: Morphine is a natural alkaloid occurring in opium poppy. This opioid drug is frequently used for treatment of severe pain because of its powerful analgesic and sedative effects. However, it has a high addictive potential and can be abused. Opiate abuse is considered as one of the problems associated with poor semen production and sperm quality. Therefore, this experimental study was carried out to evaluate the impact of intraperitoneal injection of morphine on sperm parameters and chromatin quality of spermatozoa aspirated from tail of epididymis in mice.

Methods: Totally 24 adult male balb/c mice (8 weeks old. 30g) were equally divided into 3 groups each containing 8 mice. Mice of group 1 served as control fed on basal diet, group 2 received basal diet and normal saline and group 3 received basal diet and morphine (15 mg/kg/daily, intraperitoneal) for 35 days. Finally right tail of epididymis of each mouse was cut and placed in Ham's F10 for 30 min. Released sperm were used to analyze count, motility, viability (eosin-nigrosin staining), morphology (Papanicolaou stain) and chromatin quality with Toluidine blue (TB) staining.

Result: In morphine group, a significant decrease was found in sperm count, viability, motility and normal morphology compared to other groups (p

Conclusion: It was concluded that morphine abuse disturbs sperm parameters and results in the production of spermatozoa with less condensed chromatin.

Keywords: Chromatin quality, Mice, Sperm parameters, Morphine

P153: Effect of saffron on the testicular lipid peroxidation in mice treated with paraquat

Shima Pedarpoor [1] , Farah Farokhi [2]

1- Department of Biology,Faculty of Basic Sciences, Urmia University,Urmia,Iran
2- Department of biology,faculty of basic science,Urmia university,Urmia,Iran

Corresponding Author: *Department of Biology, Faculty of Basic Science, Urmia university, Urmia, Iran, email: shima.Pedarpoor@yahoo.com*

Background: Lipid peroxidation is a well-established mechanism of cellular injury in animals and is as an indicator of oxidative stress in cells and tissues testicular cell membranes are rich poly unsaturated fatty acids and thus susceptible to peroxidation injury which leads the spermatozoa to infertility due to defective sperm function .The aim of this study was to investigate whether MDA induced spermato toxicity could be prevented by using the saffron hydroalcoholic extract (SHE).

Methods: 36 adult male mice were randomly divided into six groups of six mice each. Two groups of mice were treated at a dose of 10,20 mg/kg Paraquat. One of these groups received SHE at a dose of 160mg/kg

SHE. The other groups of mice were treated with Paraquat and SHE orally per day for 30 days. Control group received normal diet. At the end, the testis was removed and homogenized then prepared for MDA measurements.

Result: Statistical analysis showed that level of MDA in experimental groups treated with Paraquat increased significantly, while in treated mice with Paraquat and saffron showed a significant reduction in MDA.

Conclusion: It can be supposed that protective effects of saffron against Paraquat might have been related to the anti-oxidative and anti inflammatory effects of this substance.

Keywords: Mice, Paraquat, Saffron, Sperm, MDA

P154: Saffron can reduce spermatotoxic effects of paraquat in mice

Shima Pedarpoor [1] , Farah Farokhi [2]

1- Department of Biology,Faculty of Basic Sciences,Urmia University,Urmia,Iran
2- Department of biology,faculty of basic science,Urmia university,Urmia,Iran

Corresponding Author: *Department of Biology, Faculty of Basic Sciences, Urmia University, Urmia, Iran, email: shima.Pedarpoor@yahoo.com*

Background: Paraquat is a common agricultural herbicide with endocrine disruptor activity. There is evidence that it interferes with reproduction, and carries the risk of serious dose dependent toxicity to non-target tissues. The aim of this study was to investigate whether Paraquat-induced spermatotoxity could be prevented by using the saffron hydroalcoholic extract (SHE).

Methods: 36 adult male mice were randomly divided into six groups of six mice each. Two groups of mice were treated at a dose of 10, 20 mg/kg paraquat. One of these groups received SHE at a dose of 160mg/kg SHE. The other groups of mice were treated with Paraquat and SHE orally per day. Control group received normal diet. At the end of 30 days, the mice were anesthetized with ether and epididimides were dissected out and epididymal sperm concentration was determined.

Result: Epididymal sperm analyses revealed that Paraquat caused significant decreases in sperm concentration, viability and motility along with elevated sperm abnormality, while SHE co-administration provided marked normalization in the sperm quantity and quality compared to the mice groups treated only with Paraquat.

Conclusion: It can be supposed that the protective effects of saffron against Paraquat induced reproductive toxicity might have been related to the anti-oxidative and anti-inflammatory effects of this substance.

Keywords: Epididymis, Paraquat, Saffron, Sperm, Mice

P155: Effects of third cerebral ventricle injections of kisspeptin on mean serum ghrelin concentrations in male rats

Maryam Kamvar, Homayoun Khazali [1] , Fariba Mahmoudi [2] , Abolfazl Bayrami [3]

1- Faculty of Shahid Beheshti University
2- Faculty of Mohaghegh ardabili University
3- Faculty of Mohaghegh ardabili University

Corresponding Author: *Fariba Mahmoudi, University of Mohaghegh Ardabili, Ardabil, Iran, email: Maryam.kamvar@gmail.com*

Background: The peptides which control the energy balance, affect the hypothalamus- pituitary- gonad (HPG) axis activity. Ghrelin is a peptide which is mainly synthesized in the stomach and hypothalamus. It suppresses the reproductive axis and increases food intakes. Kisspeptin is a hypothalamic neuropeptide which stimulates reproductive axis and decreases food intakes. In the present study the effects of different doses of kisspeptin were investigated on mean serum ghrelin concentrations.

Methods: Fifteen Wistar male rats weighing 220-250g in three groups(n=5 in each group) received saline or kisspeptin10(1 or 3nmol). Kisspeptin was injected via third cerebral ventricle. Blood samples were collected via tail vein. Mean serum ghrelin concentrations were determined by ELISA method. The data were analyzed by one- way ANOVA followed by post hoc Tukey test.

Result: Different doses of kisspeptin may cause a significant decrease in mean serum ghrelin concentrations compared to saline.

Conclusion: Hypothalamic kisspeptin pathway may be a central mechanism to control the reproductive axis activity and food intakes via controlling ghrelin secretion.

Keywords: Ghrelin, Male rats, Third cerebral ventricle, Kisspeptin

P156: Freezing of low semen concentration declines post-thawed bull sperm quality

Sayed Mohammad Hadi Hussaini [1], Mahdi Zhandi [2], Ahmad Zare Shahneh [3], Mohsen Sharafi [4]

1- Department of Animal Science, College of Agriculture and Natural Resources, University of Tehran, Karaj, Iran
2- Department of Animal Science, College of Agriculture and Natural Resources, University of Tehran, Karaj, Iran
3- Department of Animal Science, College of Agriculture and Natural Resources, University of Tehran, Karaj, Iran
4- Department of Poultry Sciences, Faculty of Agriculture, Tarbiat Modares University, Tehran, Iran

Corresponding Author: *Department of Animal Science, College of Agriculture and Natural Resources, University of Tehran, Karaj, Iran, email: hosseini.sayyed@yahoo.com*

Background: Since the dawn of artificial insemination, the general aim of this technology was to maximize the production of elite bulls' semen. Decreasing semen concentration in artificial insemination doses is one of the strategies to maximize frozen sperm production. This study was conducted to investigate the effect of different semen concentrations on post-thawed bull sperm quality.

Methods: During this study, a total of 24 ejaculates were collected from four Holstein bulls (4 ejaculates per day) using artificial vagina twice a week. In each collection day, ejaculates were pooled and divided to three equal parts. Each part was diluted to reach one of the different final semen concentrations [100 (C100), 50 (C50), and 25 (C25) million spermatozoa/mL] and was frozen. After thawing, sperm total and progressive motility, plasma membrane integrity and functionality, status of apoptosis and mitochondrial activity were assessed.

Result: The result showed that total motility was significantly higher in C100 compared to C50 and C25 groups. Sperm progressive motility, plasma membrane integrity and functionality were not affected by semen concentration. The percentage of live spermatozoa was significantly higher in C100 compared to C50 and C25 groups. Also, C25 resulted in significantly higher early and late apoptotic spermatozoa compared to C50 and C100 groups. The number of sperms with active mitochondria was significantly lower in C25 compared to C50 and C100 groups.

Conclusion: In conclusion, it seems that high semen concentrations are more advantageous for cryopreservation process but further studies are needed.

Keywords: Concentration, Freezing, Sperm, Bovine

P157: Cryopreservation of honey bee sperm for the first time in Iran

Fatemeh Dadkhah [1], Gholamaili Nehzati Paqhaleh [2], Mahdi Zhandi [3], Mojtaba Emamverdi [4]

1- Agriculture and Natural Resources, University of Tehran, Tehran, Iran
2- Assistant Professor of Honey Bee Rearing, Agriculture and Natural Resources, University of Tehran
3- Associate Professor of Animal Physiology, Agriculture and Natural Resources, University of Tehran
4- PhD Candidate Student of Animal Reproductive Physiology, Agriculture and Natural Resources, University of Tehran

Corresponding Author: *Fatemeh Dadkhah Agriculture and Natural Resources, University of Tehran, Tehran, Iran Corresponding: dadkhah@ut.ac.ir*

Background: Breeding program and controlled crosses are attainable in the honey bee through sperm preservation and artificial insemination. The composition of semen extenders and improved cryopreservation protocols play a key role in maintenance or enhanced quality and fertility of preserved sperm. So, the purpose of the present research was improvement of honey bee sperm quality using different semen extenders and a modified preservation protocol.

Methods: In this experiment, three different extenders were used that the first, second and third extenders respectively were contained the buffer and egg yolk (EY), buffer and 0.5% soybean lecithin (SL0.5) and

buffer and 2% soybean lecithin (SL2). Collected semen diluted with extenders, was gradually cooled in a refrigerator to 5°C and immediately loaded into straws and then frozen with liquid nitrogen. Motility and viability were analyzed using the GENMOD and GLM procedure of SAS software respectively and the results were expressed as least square means.

Result: The results demonstrated that the mean fresh sperm motility and mean of cooled motile spermatozoa in egg yolk and 2% soybean lecithin based-extenders were significantly higher than the SL0.5 based-extender. Post-thawed sperm motility in EY was significantly higher than the other extenders. Furthermore, percentage of viable spermatozoa in EY based-extender (69.75±2.32%) was significantly higher than SL0.5 and SL2 based-extenders, but two extenders (38.5±2.32% and 45±2.32% respectively) did not have significant difference.

Conclusion: This is the first study using a new semen lab-made extender containing different levels of soybean lecithin and egg yolk for the cryopreservation of honey bee spermatozoa. Also, cryopreservation of honey bee sperm was successfully done for the first time in Iran.

Keywords: Cryopreservation, Extender, Soybean lecithin, Honey bee sperm

P158: The protective effect of vitamin E on fertility of mice under the influence of morphine

Seyede Fateme Hosseini, Masumeh Mohamadpour, Saeide Yahiavi, Mohamad Bakhtiary, Mansure Mohamadpour

Corresponding Author: *No. 11, Emamat 17, Sajjad St., Birjand, Iran, email: shosseini2020.15@gmail.com*

Background: In addition to the adverse effects of opium substance on fetal and adult people , due to impact on sexual and pituitary hormones it reduces sex cells and sex drive and causes infertility. Opium addiction causes disruption of menstruation and reduces the secretion of oxytocin, that followed by loss of myometrium muscle contractions. Morphine as one of the main opium substances causes disorder in uterus cycle, reduces pregnancy chance and inhibition of normal ovulation in mice. The aim of this study was to evaluate the protective effect of vitamin E on fertility of mice under the influence of morphine.

Methods: Twenty-four female mice were randomly allocated into four experimental groups. For 17 days, control group received saline (equivalent of morphin volume by subcutaneous injection), group I Vitamin E (60 mg/kg/day orally), group II Morphine (10 mg/kg/day by subcutaneous injection) and group III Morphine with Vitamin E (60 mg/kg/day orally). The mice were then mated together. On the seventeenth day the animals were sacrificed and uterus was removed and in each case the number of embryos, atrophied embryos and plaques were counted.

Result: The results showed that the chance of birth greatly decreased significantly in addicted mice (p=0/01) and in the fourth group (p = 0/001).

Conclusion: This study suggests that morphine greatly reduces the chances of birth and may induce infertility in them, while vitamin E reduces the negative effects of morphine on egg and spermatozoa.

Keywords: Fetal, Infertility, Morphine, Vitamin E

P159: The effect of a mixture of different plant extracts on sperm parameters and testicular tissue damage in mice with ccl4

Mehdi Ahmadifar [1], Mahdi Panahian [2], Nazila Vahidi-eyrisofla [3], Saba Eskandari [4], Mitra Moradi [5]

1- Department of Biology, Faculty of Sciences, University of Science and Culture, Tehran, Iran
2- Traditional medicine researcher at the University of Qom
3- Department of Biology, Damghan Branch, Islamic Azad University, Semnan, Iran
4- Paramedical faculty, Borujerd Branch, Islamic Azad University, Borujerd, Iran.
5- Department of Biology, Qom Branch, Islamic Azad University, Qom, Iran

Corresponding Author: *Department of Biology, Faculty of Sciences, University of Science and Culture, Tehran, Iran, email: Mehdi_Ahmadifar67@yahoo.com*

Background: Antioxidants are essential elements which improve sperm parameters. Several plants extracts contain antioxidants. The aim of this study was to investigate the effects of different combinations of plant extracts on sperm parameters and testicular tissue in mice.

Methods: A mixture of different plant extracts (Ginseng, Crocus sativus, Ceratonia siliqua, Stipa

capensis, Pollen Flower) was prepared at 3 doses of 200 ml, 400 ml 600 ml. The adult NMRI male mice were fed for 2 months and a group was considered as a control group. In this study, 40 rats were divided into 4 groups of 10. The experimental groups (200, 400 and ml600) were fed for 60 days after receiving testicular degeneration. After the treatment period, mice were sacrificed and separated by spinal cord epididymis. Also, sperm parameters were studied. The testis tissue for histological and Bowen were placed in fixative.

Result: Sperm parameters, including motility, viability, and normal morphology of sperm in the study with high-dose groups were compared to other groups. 600 ml improved significantly ($P \leq 0.05$). The result significantly improved histological stages of spermatogenesis and interstitial cell orientation and pipes formaldehyde evolution. The results of the group that received the 400 ml of species composition of the high-dose group compared to the control group improved but showed a significant decrease. In the group that received doses of the compound 200 ml, significant change was observed.

Conclusion: 600 ml doses of supplements may improve sperm quality and reduce the amount of programmed cell death in cells of the testes.

Keywords: Ceratonia siliqua, Crocus sativus, Flower pollen, Ginseng, Stipa capensis, Testicular, Sperm

P160: Comparison of successful implantation after second day (2- 4cell) and fifth day (blastocyst) embryo transfer in mice

Azade Karami [1], Shiva Azami [2], Mitra Bakhtiari [3], Mehri Azadbakht [4], Mozafar Khazaei [5], Rostam Ghorbani [6]

1- Department of Anatomy and Biology, Kermanshah University of Medical Sciences, Kermanshah, Iran
2- Department of Anatomy & Biology, Kermanshah University of Medical Sciences, Kermanshah, Iran.
3- Department of Anatomy & Biology, Kermanshah University of Medical Sciences, Kermanshah, Iran.
4- Department of Biology, faculty of Sciences, Razi University, Kermanshah, Iran.
5- Department of Anatomy & Biology, Kermanshah University of Medical Sciences, Kermanshah, Iran.
6- Department of Anatomy & Biology, Kermanshah University of Medical Sciences, Kermanshah, Iran.

Corresponding Author: *Azade Karami, Department of Anatomy and Biology, Kermanshah University of Medical Sciences, Kermanshah, Iran E-mail: a.karami365@yahoo.com*

Background: The assistant reproductive technology is a multistep process for infertility treatment which includes super ovulation, in vitro fertilization (IVF), embryo culture and transfer. According to the different result of embryo transfer in cleavage and blastocyst stages, we investigated embryo transfer in the absence of individual and environmental variables in both cleavage and blastocyst stages.

Methods: In the present study, female and male NMRI mice aging 6-8 and 8-12 weeks were used, respectively. Superovulation was induced by intraperitoneal injection of 10 IU PMSG combined with 10 IU HCG. Oocytes (MII) were inseminated in the IVF drop and transferred to IVC drop after 6-8 hr. Embryos were classified based on the scoring system into three grades (A, B and C) in each stage and then prepared for transfer. Pseudopregnancy was induced in recipient mice by vagina stimulation with a metal rod and confirmed by vaginal smears. The embryos transferred using catheter to recipient mice through the cervix. Implantation sites were detected by tail-vein injection of trypan blue solution after five days of transfer. Implantation sites with dark color were counted. Results were analyzed with SPSS software and c2 tests.

Result: The number of implantation in A (45.53% – 8.57%), B (29.62% – 5.56%) and C (10% – 0.0) blastocyst grades per embryo transferred significantly increased in comparison to same grades in two cell embryo.

Conclusion: The results demonstrated that implantation rate was significantly higher in blastocyst transfer than two cell transfer.

Keywords: Blastocyst, Cleavage, Pseudopregnancy, Embryo transfer

P161: A review of biological effects of electromagnetic radiation on fertility and sperm

Ali Sedighi [1], Ali Zeinali [2]

1- Textile Department, Functional Fibrous Structures and Environmental Enhancement (FFSEE), Amirkabir University of Technology, Hafez Avenue, Tehran, Iran
2- Textile Department, Functional Fibrous Structures & Environmental Enhancement (FFSEE), Amirkabir University of Technology, Hafez Avenue, Tehran, Iran

Corresponding Author: *Textile Department, Functional Fibrous Structures and Environmental Enhancement (FFSEE), Amirkabir University of Technology, Hafez Avenue, Tehran, Iran, email: info@nanosina.com*

Background: The radiation in the radio frequency-microwave region emitted from cell phones or wireless systems penetrate inside the biological body interacting with the tissues inside. One of the EMFs adverse effect is on fertility and reproduction depending on the power density and exposure time.

Methods: The field based experiments are not possible to be carried out for assessing the biological effect of mobile phone radiation exposures. So it is necessary to fall back upon laboratory experiments performed in a variety of situations. The evidence was investigated from various laboratories studying fertility effects and possible public health consequences of chronic, long-term exposure on rat's and human's sperm.

Result: Several experiments were carried out to study the effect of cell phones on sperm count, motility, morphology and vitality. Most of them reported the sperm count reduction and its apoptosis. Abnormal clumping and death of sperm cells, negative effects on the sperm motility and morphology are the other reported effects of exposure. Free radical action and oxidative stress may be responsible for the genotoxic effects of EMFs which may lead to impairments in fertility and reproduction. Free radical action and/or hydrolytic enzymes like DNAase induced by exposure to EMF may constitute the biochemical actions leading to adverse changes in hormones essential in males' reproduction, DNA damage, which in turn cause damage to sperm motility, viability and morphology.

Conclusion: Studies of human sperm show genetic (DNA) damage from cell phones. Impaired sperm quality, motility and viability occur at even low EMF intensity exposures with a resultant reduction in human male fertility.

Keywords: Fertility, Sperm, Electromagnetic radiation

P162: Evaluating of in vitro fertilization (IVF) of mice with eperimental hemolytic anemia; protective effects of royal jelly

Hojat Anbara [1] , Rasoul Shahrooz [2] , Golamreza Najafi [3] , Hassan Malekinejad [4] , Sadeq Saadati [5]

1- Department of Basic Sciences, School of Veterinary Medicine, University of Tehran, Tehran, Iran
2- Associate Professor, Department of Basic Sciences, School of Veterinary Medicine, Urmia University, Urmia, Iran
3- Assistant Professor, Department of Basic Sciences, School of Veterinary Medicine, Urmia University, Urmia, Iran
4- Professor, Department of Basic Sciences, School of Veterinary Medicine, Urmia University, Urmia, Iran
5- DVM Student, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran

Corresponding Author: *Rasoul Shahrooz, Department of Basic Sciences, School of Veterinary Medicine, Urmia University, Urmia, Iran, email: hojatanbara@gmail.com*

Background: Hemolytic anemia induced by phenylhydrazine (PHZ) as a hemolytic compound can cause reproductive disorders. The present study aimed to evaluate the royal jelly (RJ) as effective antioxidant compounds against PHZ-induced hemolytic anemia.

Methods: This study was performed by 32 adult male mice in four groups. Group of control received 0.1ml normal saline intraperitoneally (IP). The PHZ group received 60 mg/kg, IP, PHZ in 48 hour intervals. The PHZ+RJ group received 100 mg/kg of royal jelly orally along with PHZ. The RJ group received only royal jelly similar to previous group. 35 days after treatment, the sperms were collected from epididymis and their in vitro fertilization (IVF) was evaluated.

Result: Experimental hemolytic anemia significantly reduced the number of fertilized oocytes, two and four-cell embryos, morula, blastocyst and arrested embryos. However, in group that received PHZ along with RJ all of these parameters were ameliorated significantly (P

Conclusion: It can be conclude that royal jelly as a free radical scavenger has a potential capacity to decrease oxidative damages on reproductive organ in experimental hemolytic anemia.

Keywords: In vitro fertilization, Phenylhydrazine, Royal jelly, Hemolytic anemia

P163: Functional characterization of nanog during goat preimplantation development in vitro

Razieh Habibi [1] , Azadeh Naddafpour [2] , Faezeh Ghazvini Zadegan [3] , Mehdi Hajian [4] , Somayeh Ostadhosseini [5] , Reza Moradi Hajidavaloo [6] , Nima Tanhaei Vash [7] , Sayed Morteza Hosseini [8] , Mohammad Hossein Nasr Esfahani [9]

1- Department of Biology, University of Science and Culture, Tehran, Iran 2. Department of Cellular Biotechnology at Cell Science Research Center, Royan Institute for Biotechnology, ACECR, Isfahan, Iran
2- Department of Biology, University of Science and Culture, Tehran, IRAN 2. Department of Cellular Biotechnology at Cell Science Research Center, Royan Institute for Biotechnology, ACECR, Isfahan, Iran
3- Department of Cellular Biotechnology at Cell Science Research Center, Royan Institute for Biotechnology, ACECR, Isfahan, Iran
4- Department of Cellular Biotechnology at Cell Science Research Center, Royan Institute for Biotechnology, ACECR, Isfahan, Iran
5- Department of Cellular Biotechnology at Cell Science Research Center, Royan Institute for Biotechnology, ACECR, Isfahan, Iran
6- Department of Cellular Biotechnology at Cell Science Research Center, Royan Institute for Biotechnology, ACECR, Isfahan, Iran
7- Department of Cellular Biotechnology at Cell Science Research Center, Royan Institute for Biotechnology, ACECR, Isfahan, Iran
8- Department of Cellular Biotechnology at Cell Science Research Center, Royan Institute for Biotechnology, ACECR, Isfahan, Iran
9- Department of Cellular Biotechnology at Cell Science Research Center, Royan Institute for Biotechnology, ACECR, Isfahan, Iran

Corresponding Author: *Department of Cellular Biotechnology at Cell Science Research Center, Royan Institute for Biotechnology, ACECR, Isfahan, Iran, email: raziehhabibi777@gmail.com*

Background: Nanog is a novel pluripotential cell-specific gene that plays important roles in regulation of signaling pathways for maintenance and induction of pluripotency in inner cell mass (ICM), embryonic stem cells (ESC) and survival of primordial germ cells. The molecular features and transcription regulation of the Nanog gene in domestic animals are not well investigated.

Methods: We performed a goat knockdown of Nanog and determined the effects of elimination of zygotic expression of Nanog on the cellular differention. We collected in vitro-fertilized goat embryos in zygote stage and injected a volume of 8_10 pl Nanog and SCR siRNA into each zygote, and cultured them until the blastocyst stage.

Result: We assessed cleavage and blastocyst formation rates in uninjected controls, SCR - and siRNA-injected embryos. Cleavage and blastocyst rates in the groups siRNA inject were lower than the control and SCR. Embryos lacking Nanog show abnormalities in the number of ICM, or total cells in the blastocyst.

Conclusion: Our result suggested that Nanog is required in vitro for establishment and maintenance of pluripotency and cell division in early developing embryos.

Keywords: Goat, In vitro, Short-interfering RNAs (siRNAs), Nanog

P164: The effect of nitric oxide on post-thawed human sperm quality

Maryam Hezavehi [1] , Homa Kouchesfahani [2] , Abdolhossein Shahverdi [3] , Ghasem Hosseini Salekdeh [4] , Poopak Eftekhari-Yazdi [5]

1- Department of Developmental Biology, Faculty of Biological Sciences, Kharazmi University, Postal code 15719-14911, Tehran, Iran
2- Department of Developmental Biology, Faculty of Biological Sciences, Kharazmi University, Postal code 15719-14911, Tehran, Iran.
3- Department of Embryology, Reproductive Biomedicine Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran.
4- Department of Molecular Systems Biology, Cell Science Research Center, Royan Institute for Stem Cell Biology and Technology, ACECR, Tehran, Iran.
5- Department of Embryology, Reproductive Biomedicine Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran.

Corresponding Author: *shahverdi@royaninstitute.org*

Background: Exposure of sperm to controlled stressors can enhance sperm performance in cryopreservation .The purpose of this study was to evaluate the effect of sub-lethal exposure of Nitric Oxide (NO) on sperm qualitative characters after freezing-thawing.

Methods: Semen samples were collected from 26 fertile males. Spermatozoa were selected by Percoll gradient and each sample was divided into 6 groups: fresh, cryopreserved without treatment, and samples were subjected to NO donor for 1 h at 0.01, 0.1, 1 ,10µM levels before cryopreservation. Sperm motility (by CASA), sperm morphology (Papanicolaou staining), apoptosis status (Annexin V/PI) and peroxynitrite (dihydrorhodamine 123) by flow cytometry were evaluated after thawing. Data were analyzed using SPSS. The values of P

Result: The freezing/thawing resulted in a significant increase in abnormality morphology, the percentage of apoptosis and peroxynitrite levels and significant decrease in the progressive sperm motility compared with the fresh group (P

Conclusion: The mild nitric oxide stresses induction on sperm would be beneficial for cryopreservation.

Keywords: Apoptosis, Nitric oxide, Sperm, Sperm motility, Cryopreservation

P165: Effect of Tarragon(artemisia dracunculus)on growth and development of follicle in female wistar rats

Hadi Binandeh [1] , Ali Bahmani ghayedi [2] , Mohamad Shadkhast [3]

1- Shahrekord University, Shahrekord, Iran
2- Student of Veterinary Medicine, Shahrekord University, Shahrekord, Iran
3- Department of Anatomical and Histological Science of Basic Sciences, Faculty of Veterinary Medicine, Shahrekord University, Shahrekord, Iran

Corresponding Author: *Hadi Binandeh, Shahrekord University, Shahrekord, Iran, Email: shahrekord23@gmail.com*

Background: From the earliest times, people used plants for treatment of various diseases and fertility regulation. Artemisia dracunculusn is known to regulate fertility and it belongs to Asteraceae family.

Methods: In this study, 30 female mice of three weeks were selected and after weighting were divided into 3 groups , two experimental groups and one control group. The experimental groups were fed with extract of Artemisia dracunculusn 25g/kg/BW and 0/5 g/kg/BW and the control group with water for 2 months. At the end, mice were anesthetized and their ovaries removed and histological sections were prepared.

Result: Primary ،secondary ،mature and atretic follicles were counted and the results were analyzed.

Conclusion: The results showed the effect of Artemisia dracunculusn on growth and development of ovarian follicles in experimental groups compared with the control group. According to experimental observations, Artemisia dracunculusn extract can affect ovaries in ovulation effectively.

Keywords: Artemisia dracunculusn, Follicle, Histological sections, Mice

P166: The stereological study of the effect of pentoxifylline on the cryopreservation of mouse ovaries

Elham Aliabadi [1] , Elyas Kargar abargoei [2] , Farzaneh Dehghani [3] , Fatemeh Karimi [4]

1- Department of Anatomy , Shiraz University of Medical Science , Shiraz,Iran
2- Department of Anatomy , Shiraz University of Medical Science , Shiraz,Iran
3- Histomorphometry and stereology Research center, Shiriz University of Medical Science , Shiraz, Iran.
4- Department of Anatomy , Shiraz University of Medical Science , Shiraz,Iran

Corresponding Author: *Elham Aliabadi , Department of Anatomy, Shiriz University of Medical Science , Shiraz, Iran. Email: aliabade@sums.ac.ir*

Background: Ovarian cryopreservation is an important technique for assisted reproductive technologies. Although this technique has been used for long-term preservation of tissues, ovaries are vulnerable to the damage caused by the freezing procedure. Studies have shown that pentoxifylline as an antioxidant has protective effect on the reduction of the free radicals in culture media. The aim of this study was to evaluate the protection effect of pentoxifylline after thawing of ovarian tissue by stereological study.

Methods: Twenty-five mice were selected randomly and their ovaries were removed and dissected. The ovarian tissue was randomly divided in to five groups: control, incubator(30 min), pentoxifylline(1.8Mm) + incubator(30 min), vitrification (two weeks)+ incubator(30 min) and vitrified (two weeks)+ pentoxifylline(1.8Mm)+ incubator(30 min).

Result: Stereological estimation of the ovarian structure showed that the ovarian tissue volume, in the pentoxifylline+ incubator group and incubator group increased (p=0.01) and (p=0.05), compared to control group. The volume of the cortex increased in the vitrified+ incubator group (p=0.04) compared to the incubator group. The volume of the medulla was reduced in the incubator+ pentoxifyllin group (p=0.04) and vitrified group (p=0.01) compared to the incubator group.

Conclusion: In our study, administration of pentoxifylline in the culture media increased ovarian volume and it does not have protective effect on the ovarian tissue after vitrification.

Keywords: Stereology, Vitrification, Ovary, Pentoxifylline

P167: The effect of barley on blood factors in diabetic albino rat mothers and the number of their fetus

Neda Ilkhanipour, Prof. Dr. Mehrangiz Sadoughi, Dr. Mohammad Bagher Minaei zangi

Corresponding Author: *Neda Ilkhanipour, Email: nedaip6054@yahoo.com*

Background: Diabetes causes several effects on and various diseases for mothers and their fetus. Barley has ever been used to cure diabetes. Therefore, it affects the evolution of blood factors and the fetus of diabetic mothers.

Methods: The samples were divided in to four groups of nine female rats. Then, the rats of two groups get diabetes by Streptozotocin. After making sure of the two groups getting diabetes and fertilization in all four groups, the rats were grouped with regard to their nutrition as following: group 1) healthy pregnant rats, nourished with normal food, group 2) healthy pregnant rats, nourished with barley, group 3) diabetic pregnant rats, nourished with normal food, group 4) diabetic pregnant rats, nourished with barley. Next, the blood factors and fetuses were examined.

Result: The results of this study showed that barley has significant effect on all the cases.

Conclusion: The results showed that groups 1 and 2 were similar with regard to the blood factors and the number of fetuses had no significant changes ($p>0.05$). But, in group 3 and 4, all the blood factors except magnesium and the number of fetuses changed significantly (p0.05).

Keywords: Barley , Fetus, Pregnant, Blood factors, Diabetes

P168: Fertilization failure after microinjection: a review

Banafsheh Nikmehr [1] , Mahshid Bazrafkan [2] , Mehri Mahmoudi [3] , Maryam Jahani [4]

1- Anatomy Department, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran
2- Anatomy department, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran
3- Sabohi Infertility Center, Mahdieh Hospital, Tehran, Iran
4- Sabohi Infertility Center, Mahdieh Hospital, Tehran, Iran

Corresponding Author: *Banafsheh Nikmehr, Anatomy Department, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran, Email: b.nikmehr@gmail.com*

Background: ICSI achieves a fertilization rate between 70 and 80% with ejaculated spermatozoa independently from the sperm's functionality as long as the male gamete is viable. In some ICSI cases, with a frequency ranging from 3 to 5%, complete fertilization failure occurs. Factors affecting fertilization include procedural effects of ICSI technique, timing of ICSI, sperm related factors, oocyte related factors, poor ovarian response and oocyte maturity.

Methods: A comprehensive electronic search of PubMed (US National Library of Medicine, National Institute of Health; http://www.ncbi.nlm.nih.gov/pubmed/) and Web of Science (Thomson Reuters, http://webofknowledge.com/) databases was performed using the following keywords of total fertilization failure (TFF), oocyte activation and fertilization failure treatment.

Result: In cases of low fertilization rate or total fertilization failure (TFF), repeated ICSI treatment can be useful or necessary because there is a high possibility of achieving normal fertilization if a reasonable number of oocytes with normal morphology are available and motile sperm can be found. Since follow-up ICSI treatment has been shown to result in fertilization in 85% of cases, repeated ICSI attempts are suggested in TFF. There are several options for patients after repeated ICSI cycle failure. Physicians should counsel patients based on the best possible evidence available and allow the couple to make an informed choice.

Conclusion: The adverse result of a failed ICSI cycle does not imply a hopeless prognosis for future ICSI treatment. Very subtle improvements in semen parameters and/or oocyte yield/quality may result in fertilization in a subsequent ICSI attempt. Otherwise, the options of donor sperm insemination, donated oocytes or embryos, adoption and remaining childless should be discussed with the couple.

Keywords: Oocyte activation, Oocyte morphology, Sperm morphology, Sperm motility, Total fertilization failure (TFF), Intracytoplasmic Sperm Injection (ICSI)

P169: Effect of hydro alcoholic extract of German chamomile (Matricaria chamomilla) on spermatozoa quality in male mice

Shahrdad Mohebali [1]

1- Science and Research Branch of I.A.U (SRBIAU), Iran, Tehran

Corresponding Author: *Shahrad Mohebali, N 44, Siyamaky S, Patris A,Shahrara ,Tehran, Iran, Email: shd715@gmail.com*

Background: Chamomile is one of the most important herbs in herbal medicine and is used to treat many common diseases. Chamomile has different effects on different parts of the body and therefore in central and northern Europe, it is called the doctor plants. Given the importance of fertility and regeneration in personal and social life of human, the treatment of infertility and sexual ability is so important. In this study, we examined the effect of German chamomile extract on the spermatozoa quality.

Methods: In this experimental study, 50 male NMRI mice weighing 20-25 g were used. A control group of mice received normal saline and four other groups received 1000.800, 600 and 500 mg/ kg doses of hydro alcoholic extract .The extract was injected intraperitoneally for 14 days then spermatozoa count and motility in the experimental group were measured and evaluated.

Result: The results showed that chamomile extract significantly decreased spermatozoa count and motility in the experimental group compared with the control group (P

Conclusion: According to the findings, chamomile extract decreases the fertilized ability in male mice. It is expected that the incidence would occur in high level doses of extract.

Keywords: Count and motility, Fertilization, Mouse, Spermatozoa, Matricaria chamomilla

P170: The effect of glucose sugar on dog epididymal sperm kinetic patterns at 5 and 37 0 C with computer assisted sperm analyses

Pezhman Ostadgadery [1] , Keivan Abdy [2]

1- Department of Clinical Sciences, Islamic Azad University, Urmia branch, Urmia, Iran

2- Department of Clinical Sciences, Islamic Azad University, Urmia branch, Urmia, Iran;

Corresponding Author: *Ostadgadery P1, Abdy K1*, 1Department of Clinical Sciences, Islamic Azad University, Urmia branch, Urmia, Iran; email:Keivanabdy@gmail.com.*

Background: The purpose of the study was to evaluate the effect of glucose on canine epididymal spermatozoa kinetics at 5 and 37º C.

Methods: Sperm cells were collected from the caudae epididymidis from 5 healthy adult dogs that were undergoing routine orchiectomy. Then, at the regions with less blood capillaries several incisions were performed and sperm harvested. In two experimental design, three levels of glucose (2-4-6 mM) were added into human tubal fluid containing sperms (40×106 sperm/ml), with 10%, bovine serum albumin and in first experimental design were kept for 24 hours at 5 ºC and simultaneously in the second experimental design incubated at 37 ºC for 24 hrs. Sperm motility was examined at 1, 6, 12 and 24 hours with CASA. We applied one-way ANOVA of SPSS ver 22 analyses and tukey HSD and tamhane post hoc test to determine meaningful differences.

Result: The results showed that CASA parameters at 5 ºC till 12 hrs in control were better than glucose groups and differences in some parameters were meaningful (P

Conclusion: The effect of glucose was better at 37 º C, than 5º C but it is recommended that, this subject requires further and more studies.

Keywords: CASA, Dog, Epididymal sperm, Glucose

P171: Effects of electromagnetic field on insulin secretion levels in rats: an experimental study

Amir Afshin Khaki [1] , Alireza Ali-Hemmati [2] , Ramin Nobahari-kouzehkonan [3] , Salimeh Nezamivand-Chegini [4] , Masoumeh Yaralizadeh [5]

1- Department of Anatomical Sciences and National Public Health Management Center, Tabriz University of Medical Sciences, Tabriz, Iran
2- Department of Anatomical Sciences, Faculty of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran
3- PhD student in Anatomical Sciences , Students' Research Committee, Tabriz University of Medical Sciences, Tabriz, Iran
4- MSc in midwifery, Department of Midwifery, Faculty of Nursing

& Midwifery, Tabriz University of Medical Sciences, Tabriz, Iran
5- MSc in Midwifery, Midwifery Department, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran

Corresponding Author: *Ramin Nobahari-kouzehkonan, Students' Research Committee, Tabriz University of Medical Sciences, Tabriz, Iran, Email: ramin.nobahari@yahoo.com*

Background: The adverse effects of diabetes may be due to reducuction in qualify of pregnancy and its rates. Diabetes is one of the major types of metabolic diseases and the number of diabetic patients is still increasing worldwide. Diabetes mellitus (DM) is impaired insulin secretion and variable degrees of peripheral insulin resistance leading to hyperglycemia. During the 20th century, the exposure to electromagnetic fields (EMFs) became an important source of concern about the possible effects in the living organisms. Nowadays, modern technologies are increasingly used in domestic industries, home appliances, and cell phones. This has highlighted the necessity of protecting human beings from the impacts of EMFs as a new challenge. Therefore, the aims of this study were to evaluate the influence of an EMFs on insulin secretion levels in rats.

Methods: This experimental study was carried out on fourteen 12-week-old male rats. Animals were randomly divided into two groups: 5 as a control group and 9 as an experimental group. The experimental group was exposed to an EMF produced by an electromagnetic device, with a frequency of 50 Hz and intensity of 3 mT 4 h a day for 6 weeks. At the end of the 6 weeks, blood and pancreas tissue samples were taken for enzyme linked immunosorbent assay (ELISA) test and preparation for microscopic studies.

Result: Results showed that in EMF exposed group insulin level decreased (P< 0.05).

Conclusion: In the present study, we showed that exposure to EMFs has a decreasing effect on the insulin secretion. However, more studies should be done because there is scarce information concerning the effect of EMF on islets of langerhans and isulin secretion.

Keywords: Insulin secretion, Metabolic diseases, Rats, Electromagnetic field

P172: Effect of different mediums in vitrification solution on survival of follicles of ovarian sheep

Farzaneh Mohammadzadeh [1], Fardin Amidi [2], Afsaneh Mohammadzadeh [3], Lili Safdarian [4], Taibeh Rastegar [5], Aligholi Sobhani [6], Maasome Dehghan [7], Mehdi Abassi [8]

1- Tehran University of Medical Science, Tehran, Iran
2- Tehran University of Medical Science, Department of anatomy
3- Department of Reproductive Endocrinology and Embryology, Reproductive Biotechnology Research Center, Avesina Research Institute, ACECR, Tehran, Iran.
4- Tehran University of Medical Science, Department of Gynecology
5- Tehran University of Medical Science, Department of anatomy
6- Tehran University of Medical Science, Department of anatomy
7- Tehran University of Medical Science, Department of anatomy
8- Tehran University of Medical Science, Department of anatomy

Corresponding Author: *Sobhani, Aligholi,Tehran University of Medical Science, Tehran, Iran.Email: sobhania@tums.ac.ir sobhania@tums.ac.ir*

Background: The purpose of this study was to evaluate the efficiency of vitrification mediums on the quality and viability of sheep ovarian follicles.

Methods: Sheep ovarian cortex was cryopreserved using two vitrification mediums (Ham'sF10 and αMEM) supplemented with BSA or FBS with vitrification method. Four groups (Ham'sF10+BSA, Ham'sF10 + FBS, αMEM+BSA, αMEM+FBS) after thawing, were cultured for 2 weeks. Viability and morphology of follicles, DNA fragmentation in follicles and tissue stroma cells were analyzed before freezing/ thawing and after 1 and 2 weeks of culture. Follicles were separated and analyzed for vitality test by trypan blue staining.

Result: Our research showed preservation of viable follicles in different developmental stages was different and in two groups was significant (Ham'sF10+BSA or FBS versus fresh p0.05) and it decreased by passing time in all of groups. Cells in connective tissue but not follicles exhibited a slight increase in DNA fragmentation (p

Conclusion: It seems αMEM supplemented with BSA in vitrification solution is better than Ham'sF10 and FBS for good preservation of ovarian integrity and functionality at post-thawing, and thus suggested it as a suitable medium for ovarian tissue cryopreservation

Keywords: DNA fragmentation, Follicle, Media, Vitrification, Sheep

P173: Fertility rates in the male offspring of pregnant mice treated with nano zinc oxide

Mahdie Sohrabian [1] , Fateme Asrardel [2] , Kazem Parivar [3] , Nasim Hayati [4] , Alireza Badiei [5]

1- Department of Biology, Faculty of Science, Science and Research, Islamic Azad University, Tehran, Iran
2- Department of Biology, Faculty of Science, Science and Research, Islamic Azad University, Tehran, Iran
3- Department of Biology, Faculty of Science, Science and Research, Islamic Azad University, Tehran, Iran
4- Department of Biology, Faculty of Science, Science and Research, Islamic Azad University, Tehran, Iran
5- Department of Chemistry, Faculty of Chemistry, University of Tehran, Iran

Corresponding Author: *Mahdieh Sohrabian, Department of Biology, Faculty of Science, Science and Research, Islamic Azad University, Tehran, Iran Email:sohrabian.mahdie@yahoo.com*

Background: The extensive use of different nanoparticles has raised great concerns about their occupational and biological safety.The aim of this study was to evaluate the toxic effect of zinc oxide nanoparticles (ZnO NPs) on fertility rates in male offspring.

Methods: After that the mice became pregnant, they were intraperitoneally treated with nano zinc oxide(Dose 600,500,350,250 mg/kg/bw) in the second half of pregnancy (day 12). The control group only received physiological serum. Pregnant mice were kept under supervision until parturition .After reaching maturity, the male mice born were put together with female mice for mating to assess their fertility rates. The percent ratio of the fertile male rats to the studied male mice was calculated to determine fertility rate. At the end of the experiment, blood samples were taken from their left ventricles for hormonal assessment.

Result: Fertility indices in the experimental groups one (500) and two (600) decreased significantly compared to the control group (P

Conclusion: Zinc oxide nanoparticles have the capability to pass over from the mother to the fetus and affect fetal testicular tissues. Some of these effects on sex cells and sex organs are probably irreversible and can eventually reduce fertility rates in the first generation of male mice.

Keywords: Fertility rates, Male offspring, Mice, Nano zinc oxide

P174: Study of phenobarbital growth effects on fetus of balb / C mice on days 3, 4, 5 and 6 of pregnancy

Monire Monfaredi [1] , Malihe Botyar [2] , Maryam Heidaryan noor [3]

1- Biology (cell - developmental), Islamic Azad University of Karaj, Karaj, Iran
2- Senior lecturer,midwifery Department,iran university of Medical science,Tehran,Iran.
3- Senior lecturer,midwifery Department,iran university of Medical science,Tehran,Iran.

Corresponding Author: *Monireh Monfaredi Biology , Islamic Azad University of Karaj, Karaj, Iran, Email: monire.monfaredi@gmail.com*

Background: Phenobarbital is one of tranquilizers and barbiturates medicines. It primarily is used to treat various types of epilepsy. It has an effect on neuronal excitability and reduces it. It will suppress the wave transmission induced by sub-centers in the cortex, thalamus or the limbic system. Phenobarbital is applied in treatment of diseases such as epilepsy, seizures, and fever. The purpose of this study was to evaluate the effects of phenobarbital on the fetus during pregnancy.

Methods: The study included 60 female balb / C mice that were randomly divided into six equal groups: control group, sham group, and 4, 3, 2, 1 experimental groups. No substance was injected into control group and the same dose of distilled water was injected to sham group. The phenobarbital medication with a dose of 20.1 ml per kg was injected to experimental groups 1,2,3 and 4, separately (in 6th, 5th, 4th, and 3rd days of pregnancy) and intraperitoneally. Then all the rats were dissected on the day 15 of pregnancy. Then comparative study between the samples of sham, control and experimental groups were performed and teratogenic effects on fetus were examined in this study.

Result: There were no abnormalities in sham and control group fetuses. But in embryonic mice in the experimental group compared to the sham and control group, a significant decrease in fetal weight and placental weight and placental size and CR of embryo were observed.

Conclusion: Although phenobarbital, as a medicine, can have many benefits, but this research indicated the

negative effects of taking phenobarbital during pregnancy.But the study indicated the negative effects of phenobarbital use in the development of a fetus during pregnancy. Because Phenobarbital led to a significant decrease in fetal weight and placental weight and placental size fetus CR (p

Keywords: Epilepsy, Growth , Phenobarbital

P175: Simple and efficient method for spermatogonial stem cells isolation and cultivation

Shahram Darabi [1]

1- Cellular and Molecular Research Center, Qazvin University of Medical Science, Qazvin, Iran

Corresponding Author: *Shahram Darabi, Cellular and Molecular Research Center, Qazvin University of Medical Science, Qazvin, Iran, Email: shahram2005d@yahoo.com*

Background: Incidence of male infertility has been increasing in recent years. Evaluation of the mechanism of spermatogenesis has become one of the important topics in andrology. Spermatogonial stem cells (SSCs) are characterized by their ability to proliferate, self-renew and differentiation. The complexity of testis makes it difficult to investigate it in in vivo study. Therefore, the establishment of SSCs in vitro would provide a good model for studying the proliferation and differentiation of SSCs.

Methods: Rat testis was placed in PBS, then epididymis, tunica albuginea and fat pad were removed. The testes were dissected into small pieces and rinsed twice with Hank's Buffered Salt Solution (HBSS). The tissue was digested with 1mg/ml type I collagenase at 37°C and vortex for 10 min. After centrifugation, the supernatant was discarded and pellets were added with 0.25% trypsin/EDTA at 37°C for 15 min. Cells were collected by centrifugation. The recovered cells were cultured in DMEM/F12 culture media containing 15% fetal bovine serum. Cell viability was performed using trypan blue.

Result: Cell viability after enzyme digestion of rat testicular tissues demonstrated that the average rate of viable cells was 90%, suggesting that the majority of the harvested cells were viable.

Conclusion: In our study, a high viability of SSCs was achieved by enzymatic digestion method with using type I collagenase and trypsin enzymes. The results of this study show the way for the in vitro study of the mechanism of spermatogenesis

Keywords: Cell culture, Spermatogonial stem cells

P176: Advantages and application of 3D cell culture systems

Mohammad Modarresi [1] , Mohammad Nouri [2] , Maryam Ziadi [3] , Tamouchin Moharami [4]

1- Medical Genetics Department, Tehran University of Medical Sciences, Tehran, Iran
2- Women's Reproductive Health Research Center, Alzahra Hospital, Tabriz, Iran
3- Department of Medical Genetics.Tabriz University of Medical Science
4- Medical Genetics Department, Tehran University of Medical Sciences, Tehran, Iran

Corresponding Author: *Tamouchin Moharrami Medical Genetics Department, Tehran University of Medical Sciences, Tehran, Iran, Email: moharrami-t@razi.tums.ac.ir*

Background: Cell culture is one of the major tools used in cellular and molecular biology .Both established continuous cell lines and primary cell cultures continue to be invaluable for basic research and direct applications. Technological improvements are required to address emerging complex challenges; moreover, the way in which cells are cultured in vitro is an area of intense activity.

Methods: One important advancement in cell culture techniques has been the introduction of three dimensional culture systems. The 3D cell culture systems are capable of supporting varying degrees of cell complexity and functionality that are observed in vivo, which is dependent on the cell type and culture conditions. Each model comes with its own set of advantages and limitations, and one distinct model is not suitable for all applications.

Result: Such 3D cultures have proven to be closer to in vivo natural systems, thus proving to be useful material for many applications. In contrast, in most cases,2D culture models support limited cell differentiation and in vivo like functionality. One of the most critical aspects of in vitro 3D models is the need to mimic specific aspects of in vivo cell behavior to enable the accurate prediction of tissue development and morphogenesis, cellular differentiation, genotypic,

and/or phenotypic response to compounds in drug and toxicity screening assays.

Conclusion: The main application of 3D cell culture reported by survey respondents was cancer therapy (45% using). This was closely followed by cell-to-cell interactions (43% using), cell-to-matrix interactions (41% using), high throughput screening (40% using) and then model development/tissue modelling (39% using).

Keywords: 2D culture models, 3D cell Culture systems, Cell culture

P177: Investigating of the laser affecting red spectrum on folliclogenesis in ovary of rat in in vitro condition

Pariya Naseri [1] , Dr Seyed Hoseyn Rasta [2] , Dr Alireza Hemmati [3]

1- Faculty of Medicine, Tabriz University of Medical Sciences , Tabriz, Iran 2- Stem cell Research Centre, Tabriz University of Medical Sciences, Tabriz, Iran
2- Faculty of Medicine, Tabriz University of Medical Sciences , Tabriz, Iran 2- Stem cell research Centre, Tabriz University of Medical Sciences, Tabriz, Iran 3- School of Medical Sciences, University of Aberdeen, Aberdeen, UK
3- Faculty of Medicine, Tabriz University of Medical Sciences , Tabriz, Iran 2- Stem cell research Centre, Tabriz University of Medical Sciences, Tabriz, Iran

Corresponding Author: *Pariya Naseri - ph_msc@yahoo.com - - Faculty of Medicine, Tabriz University of Medical Sciences , Tabriz, Iran - Stem Cell Research Center, Tabriz University of Medical Sciences, Tabriz, Iran*

Background: Infertility is a prevalent disease in the world that poly cystic ovary syndrome (PCOS) is the common reason of it, because of disorder in folliclogenesis cycle. There are some methods to treat this disease such as surgery or drug which are invasive treatment and they have lateral effects like, increasing the risk of breast cancer. So we studied the effect of low power laser on folliclogenesis cycle as supplementary treatment with investigated level of sex's hormone and the number of follicle.

Methods: This project used low power laser to stimulate follicle of ovary for increasing production of oocyte. We stimulated 21 rats in 150-200 gr weight in the suitable condition (temperature, food and housing). They were divided in 3 groups: control, drug (clomiphene) and laser in red spectrum. After stimulation in 35 days, rats rested and then they were killed for taking samples then we investigated number of follicle and sex's hormone surface and analyzed them.

Result: The macroscopic observations showed initial success in project.

Conclusion: With previous studies, we can see low power laser is a new, encouraging method for induction of ovulation which can be more effective with less complication. Therefore, by attention in observation, it can be concluded that treatment with low level laser therapy in this field can be more effective in comparison with the conventional technique of the past.

Keywords: Folliclogenesis, Laser, Ovary

P178: Effects of phosalone insecticide on testicular tissue in rats: a histopathological study

Seyed Mehdi Kalantar [1] , Fahimeh Mazaheri

1- Research and Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences ,Yazd , Iran

Corresponding Author: *Seyed Mehdi Kalantar, Research and Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences ,Yazd , Iran, Email: smkalantar@yahoo.com*

Background: Phosalone is an organophosphoate synthetic insecticide widely used in agriculture. The exposure to this chemical might lead to damages to the living systems. The present study was done to investigate the effects of phosalone on the structure of testis in adult male rat.

Methods: For this experiment, the mature male rats were divided into two groups; Control (no injection), phosalone-treatment (phosalone was administrated at different doses (A=60 mg/kg and B=90 mg/kg and C=120 mg/kg) corresponding to LD50), in a period of several weeks. Animals were killed after the latest injection , and testes tissues sections were provided to investigate the histopathological changes.

Result: The structures of the seminiferous tubules in phosalone-treatment groups in comparison with control were pathologically damaged (p

Conclusion: Phosalone can cause clear morphological changes and atrophy of the histological structures of testis and likely to cause changes in male fertility potential.

Keywords: Histopathology, Insecticide, Phosalone , Testis tissue, Rats

P179: The effect of chronic administrations of nicotinic acid on the serum gonadotropins levels and weight gain in PCO rats

Mahin Izadi [1] , Negin Asadi [2] , Mansour Esmaeilidehaj [3] , Mohammad Ebrahim Rezvani [4] , Asma Vatankhah [5]

1- Department of Physiology, School of Medical Sciences, Shahid Sadoughi University of Medical Sciences, Yazd, Iran
2- Department of physiology, School of medical sciences, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.
3- Department of physiology, School of medical sciences, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.
4- Department of physiology, School of medical sciences, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.
5- Department of physiology, School of medical sciences, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.

Corresponding Author: *Negin Asadi, Email: neginasadi21@yahoo.com*

Background: Polycystic ovary (PCO) syndrome has a prevalence of 5–8% in women of reproductive age. PCO can lead to weight gain and hormonal disturbances in hypothalamic-pituitary axe so to increase LH (leutilizing hormone) to FSH (Follicular stimulating hormone) ratio and weight gain. This study was conducted to evaluate the role of niacin on serum gonadotropins levels and weight gain in PCO rats.

Methods: Twenty eight normal cyclicity female wistar rats weighing 175-200 g were used in this study. PCOS was induced through the injection of 4 mg estradiol valerate. PCO rats were treated by the different doses of Niacin (25, 50 mg/kg of body weight).

Result: The result of study revealed that niacin at different doses reduced weight gain compared to control group (p

Conclusion: Consumption of nicotinic acid as a supplement improves the severe weight gain and disturbance in the serum gonadotropin levels in PCO rats.

Keywords: Follicular stimulating hormone, Leutelizing hormone, Nicotinic acid, Rat, Polycystic ovary

P180: The protective effect of methanolic extract of Avocado (Persea americana) seed on in vitro fertilization capacity of sperm in type II diabetic mice

Gholamreza Hamidian [1] , Fariba Yahyavi [2] , Reza Asadpour [3]

1- Department of Basic Science, Faculty of Veterinary Medicine, University of Tabriz, Tabriz, Iran
2- Department of Basic Science, Faculty of Veterinary Medicine, University of Ferdowsi, Mashhad, Iran
3- Department of Clinical Science, Faculty of Veterinary Medicine, University of Tabriz, Tabriz, Iran

Corresponding Author: *Fariba Yahyavi, Department of Basic Science, Faculty of Veterinary Medicine, University of Tabriz, Tabriz, Iran, Email: f.yahyavi68@yahoo.com*

Background: In recent decades, global prevalence of diabetes has increased markedly and is predicted to raise more than 439 million people by the year 2030 throughout the world. Diabetes is one of the most important metabolic disorders and can gradually cause damage to the function of many organs such as the male gonads. Avocado (Perseaamericana) has traditionally been used due to its antioxidant, anti-inflammatory, anti-hyperglycemic effect but there is no data about effect of Avocado seed extract on fertilization capacity of sperm in diabetic males.

Methods: In this study, 40 adult male mice were divided in to four groups of control and four groups of diabetes. Diabetes was induced by high fat diet and low dose of streptozotocin injection. Control and diabetes groups received 0, 50, 100 and 150 mg/kg methanolic extract of Avocado seed via oral gavage for 40 consecutive days respectively. After the end of experiment, animals were sacrificed by cervical dislocation. The epididymis was dissected out and spermatozoa were expressed out by cutting the distal end of the cauda epididymidal tubule. For in vitro fertilization (IVF), superovelation was induced by hMG and hCG in normal female and oocytes recovered from ampulla. Finally, capacitated sperm suspension was added to the fertilization medium (T6+BSA) and 8 hours after incubation in a gas mixture of 5% CO2 at 37 °C, fertilization index was determined by observation of male and female pronuclei under inverted microscope.

Result: The results showed that administration of avocado could increase IVF capacity of sperm in normal mice but this increasing was not significant among treatment and control mice. Results also indicated that diabetes decreased IVF capacity of sperm and avocado could significantly inhibit this reduction in a dose dependent manner (p

Conclusion: It can be concluded that methanolic extract of avocado seed can be considered as a therapeutic strategy for improvement of infertility in male diabetic people.

Keywords: Avocado, Diabetes, Persea americana, in vitro fertilization

P181: The study on the role of infectious agents in infertility and causal impact of these factors on the success of assisted reproductive techniques

Masome Kordi [1] , Marzieh Ghasemi [2] , Nafise Androun [3]

1- Department of Midwifery, School of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran
2- Master of conseling in Midwifery .Student Research Committee, Faculty of School of Nursing and Midwifery , Mashhad University of Medical Sciences, Mashhad, Iran.
3- Master of conseling in Midwifery .Student Research Committee, Faculty of School of Nursing and Midwifery , Mashhad University of Medical Sciences, Mashhad, Iran.

Corresponding Author: *Masome Kordi, Email: kordim@mums.ac.ir*

Background: Infectious agents capable of direct conflict in different parts of the reproductive system affected the performance capabilities , blocking successful fertility or pregnancy-induced systemic effects of fertility. Reducing infection risk of infertility is directly related to the patient's age, previous infection, and severity of illness.This study aimed to investigate the the role of infectious agents.

Methods: Electronic searches in the period 1990 to 2015 through databases Pubmed, SID,proquest Google scholar Using key words ((Infertility,ART,Infection)) alone and in combination were carried out.

Result: At the end of the search of the 15 papers, 10 studies, five clinical trials in the field of infectious agents and treatment success in the field were finally assessed and the results showed that the Chlamydia in women undergoing IVF has reduced amount of implantation process in fertility. In addition,other potentially pathogenic microbes that colonize process of embryo transfer into uterine cavity also lead to undesirable results in the implantation.

Conclusion: Given the role of infectious agents in infertility caused by salpingitis, pelvic infections and the impact of these factors and success of assisted reproductive techniques during diagnosis and treatment of infertility, it is recommended that necessary measures be taken to treat these problems.

Keywords: ART, Infection, Infertility

P182: The effects of broccoli on hypothalamic-pituitary-ovarian axis hormonal cascade in female rat

Parviz Farzadinia [1] , Afshar Bargahi [2] , Mohammadreza Hajiani –e- asl [3] , Arman Hashemi [4]

1- Department of Biology and Anatomical Sciences, School of Medicine, Bushehr University of Medical Sciences, Bushehr, Iran
2- The Persian Gulf Marine Biotechnology Research Center, Bushehr University of Medical Sciences, Bushehr, Iran.
3- The Persian Gulf Marine Biotechnology Research Center, Bushehr University of Medical Sciences, Bushehr, Iran.
4- Student researches committee, School of Medicine, Bushehr University of Medical Sciences, Bushehr, Iran.

Corresponding Author: *Arman Hashemi, Borazjan, Bushehr, Iran, Email: armanhashemi75@yahoo.com*

Background: Using greens and medical vegetables for treatment of various diseases has been common at different places of the world from many years ago. Broccoli is one of valuable greens that is full of nutrients . Broccoli with the scientific name of brassica oleracea is from Crucifera family that is full of vitamin A , E , C, fiber , beta carotene, calcium , iron, zinc , selenium and sulforafan. So, broccoli by having a lot of anti- oxidation and estrogen components have positive effects on hormonal secretions and ovulation.

Methods: 40 female rats were divided into 4 groups of study and control . The study groups orally received 3 doses of broccoli extract (500, 1000 and 2000 mg/kg) every other day for 8 weeks. At the end of treatment, blood samples were taken and standard protocol of serum was prepared. Qualitative studies (hormonal assay) were performed. The quantitative data were analyzed statistically.

Result: Hormonal studies (hormonal assay such as: GnRH, FSH, LH, Str. and Prog.) showed that broccoli significantly increases hormonal levels (especially in group III (1000mg/kg dose)).

Conclusion: Our study showed that broccoli by having a lot of anti- oxidation effects, increases hormonal levels (especially in group III (1000mg/kg dose)).

Keywords: Anti-oxidant, Hypothalamic-pituitary-ovarian, Broccoli

P183: Effects of omega-3 on the capacity of the oocyte in in vitro maturation, in vitro fertilization in diabetic rats

Maryam Shahi [1]

1- Department of Biology,Faculty of Basic Sciences ,Urmia University,Urmia,Iran

Corresponding Author: *Maryam Shahi. Department of Biology,Faculty of Basic Sciences ,Urmia University,Urmia,Iran, Email: merilla.shahi@yahoo.com*

Background: Diabetes is one of the determinants of fertility that can impair the ovulation and formation of the embryo. It is possible that omega-3 as a powerful antioxidant in in vitro maturation of oocytes and embryo improves quality. This study was designed to investigate the effect of omega-3 on diabetic rats in vitro maturation and fertilization.

Methods: In this study, 32 female rats were divided into 4 groups including control, diabetic, diabetic with low-dose omega-3 and diabetes with high-dose omega-3. After completing a 45-day treatment with omega-3, hormone PMSG was injected 48 hours later, and ovary samples were used for in vitro fertilization.Data were analyzed by software spss version 16.

Result: Diabetes significantly compared with the control group (p

Conclusion: Considering the damaging effects of diabetes on fertility, omega-3, due to having antioxidant and free radical scavenging ability, can increase fertilization and fertility.

Keywords: Diabetes, Omega-3, Fertilization and embryo culture

P184: Testosterone changes in male rats following long term adminstration of bouprenorphine

Farkhondeh Khodabakhsh Nejad [1] , Fariborz Moayer [2] , Nafiseh Khosravi Dehaghi [3]

1- Department of Developmental Biology, Karaj Branch, Islamic Azad University, Karaj, Iran
2- Department of Pathobiology, Faculty of Veterinary Medicine, Islamic Azad University, Karaj, Iran
3- Department of Pharmacognosy, School of Pharmacy, Alborz University of Medical Sciences, Karaj, Iran

Corresponding Author: *Fariborz Moayer, E-mail: Fariborz_moayer@yahoo.com*

Background: Bouprenorphine originates from the Poppy plant, ensconced in Amphetamines drugs classification. From curative qualities, this drug is used for the swoon, relief of the acute pain, and in addiction treatment centers. Because of the possibility of harmful problems that are created following the use of Amphetamines drugs, in this survey the effects of long term using of Bouprenorphine on testosterone level in male rats were examined.

Methods: In this experimental study, 30 male Wistar rats were randomly divided to three groups: Control group received 2ml of distilled water and first and second treatment groups received 30 and 45 mg/kg Bouprenorphine every day intraperitoneally for 21 days. The rats were killed humanly at the end of the treatment period. Immediately after the death, blood samples were taken from rats' hearts. Each blood sample was discharged in a micro tube separately. To separate serum from the blood, samples were kept in a refrigerator for 24 hours. Then in this stage, the separated serum from every blood sample was transferred to a new microtube and was centrifuged in 5000 rpm for 15 minutes. The serums were sent to laboratory for measuring the testosterone level.

Result: Investigation of the testosterone levels in all three groups showed that the amount of testosterone level in the second treatment group in comparison to control and the first treatment group remarkably decreased.

Conclusion: Using Amphetamines combination and its derivatives can increase infertility. The decreased amount and level of the testosterone in rat blood

samples can be one of the reasons of reduced fertility in male rats, after using drug in long term.

Keywords: Infertility, Male rat, Testosterone, Bouprenorphine

P185: Effects of hypoxia on the viability and proliferation of mouse uterus endometrial epithelial cells

Maryam Mahdavi siuki [1] , Morteza Daliri [2] , Mojtaba Dashtizad [3] , Ehsan Hashemi [4]

1- Animal Biotechnology Division, National Institute of Genetic Engineering and Biotechnology, P.O. Box 14965-161, Tehran, Iran
2- Animal Biotechnology Division, National Institute of Genetic Engineering and Biotechnology, P.O. Box 14965-161, Tehran, Iran
3- Animal Biotechnology Division, National Institute of Genetic Engineering and Biotechnology, P.O. Box 14965-161, Tehran, Iran
4- Animal Biotechnology Division, National Institute of Genetic Engineering and Biotechnology, P.O. Box 14965-161, Tehran, Iran

Corresponding Author: *Maryam Mahdavi, Email: maryammahdavi_87@yahoo.com*

Background: Uterine oxygen pressure in mouse decreased during blastocyst formation and implantation to 3-5% O2. This condition is known as hypoxia. Uterus endometrial epithelial-cells (UEEC) have an important role in the embryonic attachment during implantation. Endometrium is composed of several layers, epithelial cells (luminal and glandular), and stromal cells. In this study we evaluated viability and proliferation of UEEC at different times under hypoxia and normal condition (24 and 48 h).

Methods: UEECs were isolated from pseudo-pregnant mice of 10-12 weeks and were cultured in Modified Eagle Medium/ F-12 Ham (DMEM-F/12) media supplemented with 10% fetal bovine serum (FBS) and antibiotic.The MTT assay was based on the functional activity of mitochondrial dehydrogenases in living cells, converting MTT to the colored formazan salt. After 24 h, medium was changed and cells were placed under normoxic (20% O2) and hypoxic (5% O2) conditions for 24 and 48 h. After treatments, MTT diluted in DPBS was added to the culture medium, then all were incubated at 37 °C for 4 h. Finally, the formazan crystals formed were dissolved in DMSO. The absorbance of the supernatant was read at 570 nm. Cell number was determined with a standard curve.

Result: At 24 and 48 h incubation of the UEEC under hypoxia condition (5% O2), when compared to normal condition (20% O2), it numerically decreased, but the decrease was not significant as compared to normal condition.

Conclusion: These studies support that hypoxia condition has little harmful effect on viability and proliferation of endometrial epithelial cells.

Keywords: Endometrial epithelium cells, Hypoxia condition, MTT assay, Normal condition, Uterus

P186: The study on the distribution of immune cells of uterus, 10 days after pregnancy of rats by immuneohistochemical method

Soheil Vazifedust [1] , Seyed mojtaba Moslemi ahangari [2]

1- Young Reserchers and Elite Club, Islamic Azad University, Tabriz Branch, Tabriz, Iran
2- DVM.tabriz branch.islamic azad university.tabriz.iran

Corresponding Author: *Soheila Vazifehdoust, Email: vazifedust71@yahoo.com*

Background: Pregnancy in mammals is a major example of natural immunologic tolerance that despite father's antigen, fetus will not be attacked by mother immune system. Uterus immunity has important role in pregnancy success.

Methods: In this study, the distribution of immune cells in uterus tissue of pregnant rats in 10 days after pregnancy were studied by immuneohistochemical method. For staining used monoclonal antibody, Alkaline Phosphatase and HRP enzyme and color were studied with markers. There were significant differences on population and dispersion of CD86+, CD11b+, CD11C+ and MCH-II+ cells.

Result: Recent studies showed the role of uterus mucous membrane immunity for preventing damages against fetus of pregnant rats.

Conclusion: The presence of immune cells in certain areas resulted in lack of damage response of mother immune system against fetus.

Keywords: Immune cells, Rat, Uterus, Pregnancy

P187: Effect of supplementing vitamin E and glutathione to soybean lecithin-based extender on caprine sperm cryopreservation

Mohammad Hosein Moazeni Zadeh [1], Armin Towhidi* [2], Mahdi Zhandi [3], Seyyed Mojtaba Mousavi [4], Mohammad Tar [5]

1- Department of Animal Science, Faculty of Agricultural Science and Engineering, University of Tehran, Karaj, Iran
2- Department of Animal Science, Faculty of Agricultural Science & Engineering, University of Tehran, Karaj, Iran.
3- Department of Animal Science, Faculty of Agricultural Science & Engineering, University of Tehran, Karaj, Iran.
4- Department of Animal Science, Faculty of Agricultural Science & Engineering, University of Tehran, Karaj, Iran.
5- Department of Animal Science, Faculty of Agricultural Science & Engineering, University of Tehran, Karaj, Iran.

Corresponding Author: *Armin Towhidi, Department of Animal Science, Faculty of Agricultural Science and Engineering, University of Tehran, Karaj, Iran, Email: atowhidi@ut.ac.ir*

Background: Membrane phospholipids peroxidation is responsible for reactive oxygen species (ROS) production which leads to structural damages to many cells including sperm cells. Reduction of ROS which causes a decrease in malondialdehyde (MDA) levels was observed using antioxidants i.e. vitamin E and glutathione.

Methods: Here, we reported the effect of addition of 3 levels of glutathione (1-2-3 mM) and vitamin E (0.1-0.5-1 mM) in soybean lecithin-based extender on post-thawed goat semen characteristics. Other extenders were a negative control (without glutathione and vitamin E) and a positive control (ethanol in extender). Semen samples were collected from five Mahabadi goats (3-4 years old) by artificial vagina twice a week during breeding season. After preliminary evaluation by CASA (computer assisted sperm analysis), proper samples were pooled and diluted with soybean lecithin-based extenders to a final concentration of 240×106 sperm/ml. Sperm motility and motion characteristics after freeze-thawing process where obtained from CASA and data were presented as least squares mean (LSM) ± standard error of mean (SEM). Data were analyzed by GLM procedure using SAS 9.1 (SAS Institute, version 9.1, 2002, Cary,NC, USA).

Result: Although antioxidant treatments did not affect progressive and total motility, the negative control had the lowest percentage of LIN and plasma membrane intact sperm.

Conclusion: In conclusion, it seems this level of vitamin E and glutathione could not significantly improve goat sperm quality after freeze-thaw actions.

Keywords: Caprine, Glutathione, ROS, Soybean lecithin, Vitamin E

P188: The effects of BMP4 on differentiation of mesenchymal stem cells of umbilical cord to germ-like cells in present of Sertoli cells layer

Roghayeh Ghaem Maghami [1], Tooba Mirzapour [2], Abolfazl Bayrami [3]

1- Department of Biology, University of Mohaghegh Ardabili, Ardabil, Iran
2- Department of Biology, Faculty of science, University of Mohaghegh Ardabili. Ardabil
3- Department of Biology, Faculty of science, University of Mohaghegh Ardabili. Ardabil

Corresponding Author: *Tooba Mirazapour, Department of Biology, University of Mohaghegh Ardabili, Ardabil, Iran, Email: dr.tooba72@gmail.com*

Background: Male infertility has been concerned as one of the major issues worldwide. Male fertility is limited by increase in survival chance after cancer treatment, because the anti-cancer treatments greatly offend the germ cells. In this sense, distinguishing germ cells from other sources, maintaining them in culture and their proliferation can provide in vitro generation of spermatogenesis as a strategy to treat infertility. Bone morphogenesis protein (BMP4) is a regulatory factor in the differentiation. In this study, the effect of different concentrations of Bmp4 on differentiation of mesenchymal stem cells into germ-like cells has been investigated.

Methods: Mesenchymal stem cells (MSCs) were isolated from umbilical cord Wharton's jelly by method of piece tissue culture. The isolated cells were cultured in high glucose DMEM in present of 10% fetal calf serum.After the fourth passage, the MSC cells were co-cultured on Sertoli cells as feeder layer and induced by different doses of BMP4 (0/5 and 5 ng/ml) during 10 and 15 days of culture. The differentiation of MSC to germ-like cells were confirmed by evaluating the expression of some specific genes using RT-PCR technique.

Result: The results showed that 5 ng/ml BMP4 had the highest effect on differentiation of mesenchymal stem cells to germ-like cells after 15 days of culture. The expression of Plzf that is a premeiotic marker in spermatogonial stem cells was expressed in germ-like cells. However, expression of Scp3 gene that is a meiotic marker was not observed in these cells.

Conclusion: Since the mesenchymal stem of umbilical cord Warton jelly has nature of pluripotent stem cells, so these cells can be used as a source of germ cells and for treatment of infertility in future.

Keywords: BMP4, Germ- like cells, Mesenchymal stem cells (MSC)

P189: Human umbilical cord blood serum, a good substitute for FBS in proliferation of Wharton's jelly mesenchymal cells

Mojgan Moshrefi [1] , Azadeh Esmaeli [2] , Ali Shamsara [3] , Nouredin Nematollahi [4]

1- Research and Clinical Center for Infertility, Shahid Sadughi University of Medical Sciences, Yazd, Iran
2- Kerman student research center, Kerman University of Medical Sciences, Kerman, Iran.
3- Department of Anatomy, Afzalipour School of Medicine, Kerman University of Medical Sciences, Kerman, Iran.
4- Department of Anatomy, Afzalipour School of Medicine, Kerman, Iran

Corresponding Author: *Nouredin Nematollahi, Department of Anatomy, Afzalipour School of Medicine, Kerman, Iran. Email: nnematollahi@kmu.ac.ir*

Background: Although FBS, as an important substance, is usually used in cell culture laboratories, stimulation of immune responses, local inflammation, tissue rejection and risk of zonotic infections limit its usage in culturing the cells for cell transplantation. Human umbilical cord blood serum (HUCBS) is a bio waste which can be replaced for FBS. In the present study, we compared the proliferation property of Wharton's jelly mesenchymal cells (WJMCs), treated with FBS and HUCBS.

Methods: We collected HUCBS from umbilical cord of healthy babies, delivered by caesarian section, after informed consent. Also, the cells of Wharton's jelly were isolated by explant culture method. The cells were cultured in Iscove's Modified Dulbecco's Medium (IMDM), supplemented with FBS and HUCBS, separately. The cells proliferation and viability were evaluated by using WST-1 assay and trypan blue staining, respectively. Also, some cells were cultured without serum, as control group.

Result: The cells cultured in medium, supplemented with serum exhibited similar morphology. Although a significant difference was seen between the proliferation of the cells, cultured in medium without serum and mediums supplemented with serum (HUCBS and FBS), no significant difference was seen between the proliferation of the cells, cultured with HUCBS and FBS. These results were true for trypan blue dye evaluation.

Conclusion: We concluded that HUCBS, as a replacement for FBS, can efficiently support the proliferation of WJMCs, as a kind of mesenchymal cell.

Keywords: Wharton's jelly mesenchymal cells, Cord blood serum

P190: Development of 3 dimensional cell-coated homemade scaffolds for future applications in non-obstructive azoospermia treatments

Zahra Borzouie [1]

1- Stem Cell Biology Research Center, Shahid Sadoughi University of Medical Sciences, Yazd, Iran

Corresponding Author: *Zahra Borzouie, Stem Cell Biology Research Center, Shahid Sadoughi University of Medical Sciences, Yazd, Iran, Email: mahzad626@yahoo.com*

Background: Approximately one in 200 men in any population suffers from infertility due to azoospermia. In the Non-Obstructive Azoospermia (NOA) patients the spermatozoa is absent in the testis or few numbers are detected. Today assisted reproductive technique (ART) could help these patients through TESE and ICSI. However, in patients with complete arrest in mitosis in spermatogonial, these treatments could not be useful. For this reason, the only approach for these patients is using sperm donation and is in contrast to culture or ethic law in many countries. In this study we developed a 3D culture device using cells from NOA patients and a homemade scaffold.

Methods: 2 TESE samples were used after careful considerations by patients and minced mechanically and treated by three step enzymatic digestion to isolate

single cells. Single cells have been cultured with HES-KOSR medium with/without feeder layer for a week and then passaged and cultured onto a 3D scaffold for 7, 14 days and then sectioned and stained.

Result: Cells were derived and cultured from both TESE samples and then passaged onto a new albumin phosphate calcium 3D scaffold and cultured for 7 and 14 days. Scaffolds were sectioned and stained with hematoxolin and eosin and compared with human testis sections. Some cells have been cultured and grown within the free spaces of the scaffold, comparable to seminiferous tubules sections.

Conclusion: Our findings prepared a 3D culture device which could lend itself to design an artificial testis for the future NOA patients.

Keywords: Spermatogonial stem cells, Testicular sperm extraction, Three-dimensional culture, Tissue engineering, Assisted reproductive techniques

P191: Adverse effect of atmospheric oxygen culture at both the cleavage and post-compaction phases

Diba Bagheri Motlagh Pashaki [1] , Mojtaba Dashtizad [2] , Morteza Daliri joupari [3] , Ehsan Hashemi [4] , Parinaz Kazemi [5] , Samaneh Fayazi [6] , Maryam Mahdavi siuki [7]

1- National Institute of Genetic Engineering and Biotechnology (NIGEB), Tehran, Iran
2- National Institute of Genetic Engineering and Biotechnology (NIGEB), Tehran, Iran
3- National Institute of Genetic Engineering and Biotechnology (NIGEB), Tehran, Iran
4- National Institute of Genetic Engineering and Biotechnology (NIGEB), Tehran, Iran
5- National Institute of Genetic Engineering and Biotechnology (NIGEB), Tehran, Iran
6- National Institute of Genetic Engineering and Biotechnology (NIGEB), Tehran, Iran
7- National Institute of Genetic Engineering and Biotechnology (NIGEB), Tehran, Iran

Corresponding Author: *Mojtaba Dashtizad, National Institute of Genetic Engineering and Biotechnology (NIGEB), Tehran, Iran, Email: dashtizad_75@yahoo.com*

Background: In the IVF laboratory, the embryos are generally cultured at a gas phase of atmospheric (~20%) oxygen. By study on animal models, it has been revealed that in vivo embryos are surrounded with lower oxygen concentration. Previous observations in mouse have shown that pronucleate stage is the most critical phase of embryo development that is susceptible to oxygen toxicity, so in this study 2-cell embryo was cultured and quality parameters such as blastocyst formation, hatching and blastulation rate were evaluated at 5% oxygen concentration.

Methods: 2-cell embryos were collected from NMRI mouse oviducts, 40 hours after hCG injection, then cultured in KSOM medium until blastocyst stage, at 37°C in a multi-gas incubator set to 5% CO2, 5% O2, 90% N2 (hypoxia group) or 5% CO2 in air (atmospheric group).

Result: The results showed that the low oxygen groups had significantly higher blastocyst formation, hatching and blastulation rate than the atmospheric oxygen group ($P< 0.05$).

Conclusion: In conclusion, contrary to last finding, destructive effect of oxygen can impress mouse embryo cultivating at both the cleavage and post-compaction phases. Therefore, culturing in low oxygen had positive effect on the developmental potential of embryos.

Keywords: Blastocyst formation, Blastulation rate, Embryo culture, Oxygen, Hypoxia

P192: Effect of antioxidant supplements on post-thawed buffalo bull sperm parameters

Rahim Beheshti [1] , Vahidi Dianat [1] , Siavash Nasrollahi [1]

1- Department of Veterinary Medicine, Shabester Branch Islamic Azad University Iran.

Corresponding Author: *Rahim Beheshti, Department of Veterinary Medicine, Shabester Branch Islamic Azad University Iran, Email: beheshti@iaushab.ac.ir*

Background: Antioxidant agents and amino acids protect sperm cells against oxidative reactions during cryopreservation. The purpose of this study was evaluation of the effects of vitamin E on Azerbaijan Buffalo bull´s sperm cells after thawing.

Methods: Only samples that have progressive motility over than 70% at 37 °C were diluted with tris-yolk base extender. Vitamin E was added to extender to achieve four different concentrations: 0.1, 0.5, 1 or 1.5 mM. Each mixed ejaculate was diluted at 37 °C to concentration of 6 × 106 sperm/mL the semen was loaded into 0.5 ml straws, cooled and frozen in a

programmable freezer and subsequently stored in liquid nitrogen. One month later, five straws were selected randomly and after thawing in 37 °C water bath in twenty seconds, sperm cells motility was evaluated with 37 °C warm plate microscope. Then, viability percentage and acrosomal membrane integrity were evaluated.

Result: The result showed significant difference between control and vitamin E groups and sperm motility was higher in vitamin E group)P

Conclusion: Between vitamin E groups, the percentage of live-ratio was highest in vitamin E 1.5 mM and lowest in vitamin E 0.1 mM and control group (P

Keywords: Semen, Vitamin E, Buffalo bull

P193: Neural transdifferentiation of spermatogonial stem cells triggered by EGF and bFGF

Shahram Darabi [1]

1- Cellular and Molecular Research Center, Qazvin University of Medical Science, Qazvin, Iran

Corresponding Author: *Shahram Darabi, Cellular and Molecular Research Center, Qazvin University of Medical Science, Qazvin, Iran, Email: shahram2005d@yahoo.com*

Background: Neural stem cells (NSCs) are important cells in the development of central nervous system. Spermatogonial stem cells (SSC) are characterized by their ability to proliferate, self-renew and differentiate extensively. SSC can be grown in aggregates called neurospheres and then into neural cells under appropriate conditions in laboratory.

Methods: Rat testis was dissected into small pieces and rinsed with Hank's Buffered Salt Solution (HBSS). The tissue was digested with 1 mg/ml type I collagenase and 0.25% trypsin/EDTA at 37°C for 15 min.The recovered cells were cultured in DMEM/F12 culture media containing 15% fetal bovine serum. After third passage, cells were expanded and then induced into neurospheres in the presence of epidermal growth factor (EGF) 20ng/ml , basic fibroblast growth factor (bFGF)20ng/ml and 2%B27. The mean percentage of nestin (specific markers of NSCs) immunoreactive cells were used to evaluate the NSCs differentiation at the end of induction stage.

Result: The result of the study showed that expousure of SSC to EGF, bFGF and B27 promotes differentiation of these cells into NSCs. The yield of NSCs was about 80%.

Conclusion: NSCs obtained from SSC are promising type of neural stem cells for repairing of central nervous system lesions.

Keywords: Epidermal growth factor, Neural stem cells, Spermatogonial stem cells cells

P194: Chemoprotective effects of vitamin c on ovarian follicle development in cyclophosphamide treated mice

Sobhan Zamani dadaneh [1] , Kamran Drostkar [2] , Mohamad jaffar Rezaie [3] , Arash Afyoni [4]

1- Department of Clinical Sciences, Faculty of Veterinary Medicine, Sanandaj Branch, Islamic Azad University, Sanandaj, Iran
2- Department of Clinical Sciences, Faculty of Veterinary Medicine, Sanandaj Branch, Islamic Azad University, Sanandaj, Iran
3- Cellular & Molecular Research Center, Kurdistan University of Medical Sciences, Sanandaj, Iran
4- Department of Clinical Sciences, Faculty of Veterinary Medicine, Sanandaj Branch, Islamic Azad University, Sanandaj, Iran

Corresponding Author: *Sobhan Zamani, Ardalan St., Hasan Abad City, Sanandaj, Iran, email: sobhan.z_vet@yahoo.com*

Background: The side effects of cyclophosphamide causesreduction of fertility or even infertility in patients treated with this drug are evident. In recent years, many attempts to find an agent to reduce the side effects of this drug have been conducted.For this reason,the present study has conducted to investigate the protective different effects of vitamin C on ovarian toxicity of Cyclophosphamidein mice.

Methods: In this experimental study,36 adult female mice of 4 months old from the race nmri, in the weight range of 50-40 g were randomly divided into 4 groups of 9.For the mice of control group 1dose Saline (IP, 75mg / kg), to the group 2 daily for 7 days Vitamin C (IP, 1000mg/kg), to the group 3 one dose of Cyclophosphamide (IP, 75mg / kg) and for the mice of group 4 vitamin C in the same way with the injection of a dose of Cyclophosphamide (IP, 75mg / kg) was prescribed. Group 1and 2 animals on the 12th day of the test (after one cycle of ovulation), and the group 3

and 4 mice in the 20th day of the test were euthanized and the right ovary was used for histological studies and morphometrics. Analysis of data was performed by using one-way ANOVA and Tukey post hoc test. The significant level of P

Result: Cyclophosphamide resulted in a significant decrease in the number of ovarian follicles and in the number of Corpus luteumcompared with the control group (P

Conclusion: According to the results of this study, prescription of vitamin C can significantly prevent the negative effects resulting from prescription of Cyclophosphamideon the ovarian tissue.

Keywords: Mouse., Cyclophosphamide, Morphometrics , Vitamin C, Ovary

P195: N-acetyl cysteine protects the adverse effects of dexamethasone on the spermatogenic cells population and daily sperm production in mice exposed to dexamethasone

Sepideh Bakhshi [1] , Malek Soleimani Mehrenjani [2] , Monireh Mahmoodi [3] , Samira Naderi Noreini [4]

1- Arak University, Faculty of Science, Department of Biology, Arak, Iran
2- Arak University, Faculty of Science, Department of Biology, Arak, 38156-8-8349. IRAN
3- Arak University, Faculty of Science, Department of Biology, Arak, 38156-8-8349. IRAN
4- Arak University, Faculty of Science, Department of Biology, Arak, 38156-8-8349. IRAN

Corresponding Author: *Sepideh Bakhshi, Email: sepidehbakhshi1990@gmail.com*

Background: Dexamethasone is used to treat inflammatory and autoimmune conditions. Its prescription has been increased during the recent years. The aim was to investigate the protective effect of N-acetyl cysteine (NAC), as an antioxidant, on the spermatogenic cells population and daily sperm production in mice treated with dexamethasone.

Methods: 24 NMRI mice were divided into 4 groups (n=6) and treated for 7 days: NAC (100 mg/kg), dexamethasone (7mg/kg), dexamethasone + NAC (100 mg/kg) and control. At the end, their body and left testis were weighed and the left testis was fixed, stained and used to estimate the population of spermatogenic, Leydig and Sertoli cells using stereological methods. The right testis was used to calculate the daily sperm production (DSP). The results were analyzed by one-way ANOVA and the means were considered significantly different at p

Result: The mean DSP and the mean number of spermatocytes, round and long spermatids reduced significantly in the dexamethasone group compared to the control while a significant increase in the mentioned parameters was observed in the dexamethasone + NAC group to the control level.

Conclusion: This study showed that co-administration of NAC with dexamethasone could prevent the adverse effects of dexamethasone on the spermatogenic cell population and the daily sperm production in the mice. Therefore, the including NAC as a supplement in medical regimens containing dexamethasone may be useful in preventing the side effects of dexamethasone on the reproductive system.

Keywords: Dexamethasone, Mice, N-acetyl cysteine, Testis, Stereology

P196: Comparative study of histomorphological changes in mouse polycystic ovary after treatment with clomiphen citrate, metformin, and spironolactone

Homeyra Seydi [1] , Mehri Azadbakht [2] , Paria Parto [3] , Fatemeh Nowrouzi [4]

1- Department of Biology, Faculty of Sciences, Razi University, Kermanshah, Iran
2- Department of Biology, faculty of Sciences, Razi University, Kermanshah, Iran
3- Department of Biology, faculty of Sciences, Razi University, Kermanshah, Iran
4- Department of Biology, faculty of Sciences, Razi University, Kermanshah, Iran

Corresponding Author: *Department of Biology, Faculty of Sciences, Razi University, Kermanshah, Iran, email: h.seidi68@gmail.com*

Background: Polycystic ovary syndrome (PCOS) is the most common endocrine disorder that encompasses a large percentage of women in childbearing age. PCOS is identified with irregular menstrual cycles, hyperandrogenism and infertility and is often associated with overweight and insulin resistance.

Clomiphen citrate as the first drug capable of inducing ovulation, spironolactone as an antiandrogen and metformin as an anti-hyperglycemic with increase of ovulation rates, are available drugs for the treatment of PCOS. We investigated the comparative effects of clomiphen citrate, metformin and spironolactone in PCOS in mice.

Methods: Polycystic ovary was induced in female NMRI mice by testosterone enanthate (1mg/100g per day). After PCO, female mice were treated with clomiphen citrate (one week, 1mg/kg), metformin (two-week, 250 mg / kg) and spironolactone (two weeks, 12 mg /kg). The mice which received only testosterone were mentioned as control group. The ovaries were used for histological assessments. Data was analyzed using Duncan test.

Result: Testosterone enanthate treatment significantly increased the percentage of cystic follicles and decreased follicles growth in compared to treatment groups. The body weight, and ovary weight and diameter in all groups showed significant decrease compared to control group. Clomiphen citrate and metformin improved histological damage which results from testosterone enanthate. In the all groups, follicular count and growth significantly increased compared to control. However, clomiphen citrate alone significantly increased percentage of corpus luteum compared to control group.

Conclusion: Clomiphen citrate compared to metformin and spironolactone could be considered as a first-line therapy for increasing ovulation rates, growth of ovarian follicles and regeneration in polycystic ovary.

Keywords: Clomiphen citrate, Metformin, Mouse, Spironolactone, Polycystic ovary syndrome

P197: A comparison of the effects of oral contraceptives pills and vitamin D on polycystic ovary in mouse

Homeyra Seydi [1], Mehri Azadbakht [2], Paria Parto [3], Fatemeh Nowrouzi [4]

1- Department of Biology, Faculty of Sciences, Razi University, Kermanshah, Iran
2- Department of Biology, faculty of Sciences, Razi University, Kermanshah, Iran
3- Department of Biology, faculty of Sciences, Razi University, Kermanshah, Iran
4- Department of Biology, faculty of Sciences, Razi University, Kermanshah, Iran

Corresponding Author: *Department of Biology, Faculty of Sciences, Razi University, Kermanshah, Iran, email: h.seidi68@gmail.com*

Background: Polycystic ovary syndrome (PCOS) affects 5-10% of the female population and is characterized by increased resistance to insulin. PCOS identified with irregular menstrual cycles, anovulation and hyperandrogenism. Oral contraceptives pills (OCPs) reduce levels of androgen in PCOS especially testosterone and regulate menstrual periods. Vitamin D deficiency is common in PCOS and its lower levels were associated with insulin resistance. This study was conducted to compare the effects of oral contraceptives pills (OCPs) and vitamin D on PCOS.

Methods: Polycystic ovary was induced by testosterone enanthate in female NMRI mice (1mg/100g per day). After PCO, four weeks of treatment with OCPs (0.12 mg/ kg, ethinyl estradiol and 0.5 mg/ kg. levonogestril) and four weeks of treatment with vitamin D (0.5 µgr/kg) were done. Control group received testosterone alone. The ovaries were fixed and used for histological analysis. Data was analyzed using One-Way ANOVA and Duncan test.

Result: In control group, the percentage of cystic follicles significantly increased and the follicles growth significantly decreased compared to treatment groups. Vitamin D significantly decreased the average of body weight, and ovary weight and diameter compared to control group. However, OCPs only decreased ovary weight. OCPs and vitamin D significantly increased the mean number of primary, pri-antral and antral follicles and significantly decreased the number of cystic follicles compared to control group. OCPs reduced the tissue damage caused by polycystic ovary.

Conclusion: OCPs compared to vitamin D could be considered as an effective treatment to increase follicular growth and reduce the tissue damage in PCOS.

Keywords: Mouse, Oral contraceptives pills, Vitamin D, Polycystic ovary syndrome

P198: The effects of developmental treatment with ethosuximide on the threshold of pentylentetrazole-induced seizure in adult rats

Zeinab Jan

Corresponding Author: *Zeinab Jan, email: kaban.john@yahoo.com*

Background: Long-term use of antiepileptic drugs elicits various side effects in epileptic patient and also children born to mothers taking antiepileptic drugs. Ethosuximide is a first-line drug for absence seizures that acts mainly via T-type calcium channel inhibition. In the current study, we examined the lasting effects developmental exposure to ethosuximide during late gestational and early postnatal period on the threshold of pentylentetrazole-induced seizure.

Methods: All experiments were carried out humanely and with regard for alleviation of suffering, with protocols approved by the local animal ethics committee and in accordance with declaration of Helsinki guidelines and prior approval of the animal ethics committee of the Shiraz University.Timed pregnant female rats were divided into three groups. In control group, mothers received tap water during pregnancy and lactation period. Mothers in sham group received saccharine (40mg/kg. day) in tap water between embryonic on day 15 (E15) and postnatal on day 7 (PND7). Mothers in the treatment group, received ethosuximide (20mg/kg .day) and saccharine (40mg/kg/day) dissolved in tap water in the same period. Ethosuximide has been assigned to pregnancy Risk Factor C and for most patients the optimal dose was 20 mg/kg/day in divided doses (Briggs and Freeman and Yaffe , 2002).

Result: On PND 60, one male and one female from each litter were used for each to assess seizure threshold. We found that developmental exposure to ethosuximide significantly increased convulsive seizure threshold in female rats. Presynaptic mechanisms seem to underlie this effect.

Conclusion: Our findings suggest that developmental exposure to therapeutic concentrations of ethosuximide certain caution must be taken when prescribing this medication to pregnant or breastfeeding mothers.

Keywords: Seizure threshold, Development, Rat, Saccharine, Ethosuximide

P199: Zinc in pregnancy and its association with prolonged labor

Fatemeh Bakouei [1] , Sare BAKOUEI [2] , Fatemeh REISIAN [3] , Azita GOSHTASEBI [4]

1- Faculty of Medicine, Babol University of Medical Sciences, Babol, Iran
2- Faculty of Nursing and Midwifery, Qom University of Medical Sciences, Qom, Iran
3- Department of Midwifery, Gorgan branch, Islamic Azad University , Gorgan, Iran
4- Department of Family Health, Mother and Child Health Research Center, Iranian Institute for Health Sciences Research, ACECR, Tehran, Iran.

Corresponding Author: *Fatemeh Bakouei,Department of Midwifery, Faculty of Medicine, Babol University of Medical Sciences, Babol, Iran. bakouei2004@yahoo.com*

Background: It is plausible that pregnancy may result in a decrease in the serum zinc concentration. The concentration of serum zinc is an important determinant of maternal complications. The aim of the current study was to identify serum zinc concentration and evaluate the possible correlation of this concentration with the length of first and second stage of labor in the pregnancy.

Methods: In a observational prospective study, 432 pregnant women aged 18-35 years old from urban primary health care centers in Tehran (Iran), were selected using a multi-stage sampling method and sampling proportionate to size. The blood samples were obtained for measurement of maternal serum of iron and zinc in healthy singleton pregnancy, between 14-20 weeks of gestational age, using electro-thermal atomic absorption spectrometry and zinc in a standard procedure, respectively. Meanwhile, their length of the stages of labor was also recorded. Then, serum zinc and serum iron concentrations during early pregnancy associated with prolonged labor were analyzed.

Result: Maternal zinc and iron deficiency during pregnancy were found around 28.7% and 16%, respectively. The overall proportion of prolonged labor was 13.5%. The women with prolonged labor significantly had lower zinc concentration (p=0.03); however, there was no association between prolonged labor and zinc/ iron deficiency after adjusting for confounders.

Conclusion: The findings of the current study indicated that a high prevalence of zinc deficiency was identified among the pregnant women in the second trimester of pregnancy. Therefore, it is important to

emphasis on continuing the evaluation of potential risk factors for maternal complications.

Keywords: Prolonged labor, Zinc, Pregnancy

P200: Vasopressin effect on operation time and frequency of electrocauterization during laparoscopic stripping of ovarian endometriomas: a randomized controlled clinical trial

Marzieh Ghafarnejad [1]

1- Bahman Hospital, Shahrake Gharb, Tehran, Iran

Corresponding Author: *Bahman Hospital, Shahrake Gharb, Tehran, Iran. Marzieh Ghafarnejad, email: ghafarin2@yahoo.com*

Background: The purpose of this study was to assess the vasopressin effect on operation time and the need for electrocauterization frequency and ovarian reserve during laparoscopic stripping of ovarian endometriomas.

Methods: This was a randomized prospective clinical trial, in which twenty patients between 18-35 years with unilateral endometriomas were randomly divided in two groups of cases and controls. Laparoscopic cystectomy was performed by hydrodissection and stripping method in both groups with diluted vasopressin injected in cases, in comparison to only saline injection in controls. Ovarian hemostasis was achieved by bipolar electrocoagulation. The operation time and frequency of electrocoagulation were compared between two groups. The ovarian reserve was determined by ultrasound examination and laboratory assessment one month before and two months after surgery in two groups. Non parametric data was analyzed by Mann-Whitney test. The p-value less than 0.05 was considered statistically significant.

Result: The operation time was less in cases than control group, but the difference was not statistically significant (p=0.065). The frequency of electrocoagulation for hemostasis was less in cases than controls but this difference was not statistically significant (p=0.132). The antral follicle count decreased in both groups two months later, while no significant difference was found between two groups.

Conclusion: This study shows that diluted vasopressin decreases operation time and electrocauterization frequency during laparoscopic stripping of ovarian endometriomas; however, the difference between case and control group was not statistically significant.

Keywords: Endometriosis, Laparoscopy, Vasopressin, Electrocoagulation

P201: Seroprevalence of Rubella virus in women with spontaneous abortion in Kerman city

Mohammad Sadegh Razeghi [1] , Ehsan Kafi [2] , Nazanin ChatrAbnous [3] , Reza Haj-Ebrahimi [4]

1- Department of Immunology, School of Medicine, Kerman University of Medical Sciences, Kerman, Iran. Department of Laboratory Sciences, Sirjan Faculty of Medical Sciences, Kerman University of Medical Sciences, Kerman, Iran
2- Department of Immunology, School of Medicine, Kerman University of Medical Sciences, Kerman, Iran.
3- Department of Immunology, School of Medicine, Kerman University of Medical Sciences, Kerman, Iran.
4- Department of Laboratory Sciences, Sirjan Faculty of Medical Sciences, Kerman University of Medical Sciences, Kerman, Iran.

Corresponding Author: *Department of Laboratory Sciences, Sirjan Faculty of Medical Sciences, Kerman University of Medical Sciences, Kerman, Iran, email: sadeghrazeghi@yahoo.com*

Background: Spontaneous abortion occurs by different etiological causes including viral infections. Rubella infection can cause or promote the recurrent fetal loss. Rubella virus infection can induce abortion especially in the first trimester of pregnancy. Thus, in this study the prevalence of anti- rubella IgG and anti-rubella IgM antibody were measured in both pregnant women with recurrent spontaneous abortion.

Methods: In a cross-sectional study, 174 women with unexplained miscarriage were studied. Blood was taken from all patients and Rubella IgG and IgM antibodies by ELISA processor (Chorus Trio) were measured. Data were analyzed by using SPSS version 19.

Result: In the present study, for the presence of IgG antibodies to rubella virus, 168 out of 174 patients (96/5%) were safe, and 2 (1.2%) unsafe and 6 (2/3%) were suspicious. Also, the highest presence of rubella virus IgM negative was 168 (96/6%) and 6 were positive (3/4%), respectively.

Conclusion: A higher prevalence of antibodies against rubella virus in pregnant women with spontaneous

abortions was detected and can cause or aggravate the situation and the importance of the rubella virus abortion needs more emphasis.

Keywords: Kerman, Spontaneous abortion, Rubella

P202: Adenosine deaminase activity in polycystic ovary syndrome (PCOS)

Mahshid Salehabadi [1] , Iraj Khodadadi [2] , Marzieh Farimani [3] , Gholamreza Shafiei [4]

1- Department of Biochemistry, Faculty of Medicine, Hamadan University of Medical Sciences, Hamadan, Iran
2- Department of Biochemistry, Faculty of Medicine, Hamadan University of Medical Sciences, Hamadan-Iran.
3- Fertility Research Centre, Fatemieh Hospital, Hamadan-Iran.
4- Department of Biochemistry, Faculty of Medicine, Hamadan University of Medical Sciences, Hamadan-Iran.

Corresponding Author: *Department of Biochemistry, Faculty of Medicine, Hamadan University of Medical Sciences, Hamadan, Iran, email: mahshidsalehabady@yahoo.com*

Background: Polycystic ovary syndrome (PCOS) is a common endocrine disorder in women of reproductive age and attracted much attention during the last decade because of its worldwide high prevalence (14.6% in Iranian women) and associated clinical complications. Follicular fluid adenosine plays crucial role in oocyte survival, therefore, adenosine deaminase (ADA) is a pivotal enzyme in the metabolism and recycling of adenosine nucleotides in the human follicle. In this regard, a critical correlation has been found between maintenance of normal pregnancy and ADA activity. This study investigates serum total ADA activity (tADA), ADA1 and ADA2 isoenzyme activities in healthy and PCOS women.

Methods: In this study, 200 PCOS patients and 200 healthy women were enrolled. Blood samples were collected and activity of adenosine deaminase was measured by Giusti and Galanti colorimetric method. Statistical analyses were carried out using the Statistical Package for Social Sciences version 16 (SPSS, Inc., Chicago, IL, USA).

Result: The results of the present study showed that serum total adenosine deaminase catalytic activity (tADA) as well as ADA1, and ADA2 enzyme activities significantly reduced PCOS compared to control healthy women. A great reduction was observed in tADA activity (30%) in PCOS patients compared to controls.

Conclusion: For the first time, we showed that ADA activity is lower in PCOS which confirms the involvement of adenosine deaminase in the pathogenesis of PCOS through leaving higher concentration of adenosine in environment and affecting follicular growth and oocyte maturation.

Keywords: ADA1 isoenzyme, ADA2 isoenzyme, Oocyte maturation, Polycystic ovary syndrome, Adenosine Deaminase

P203: Prevalence of IVF in a private hospital

Ahmadshah Farhat [1] , Reza Saiedi [2] , Ashraf Mohammadzadeh [3]

1- Neonatologist, Assistant professor, Neonatal Research Center, Imam Reza Hospital, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran
2- Neonatologist, Associated professor, Neonatal Research Center, Imam Reza Hospital, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran
3- Neonatologist, Professor, Neonatal Research Center, Imam Reza Hospital, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran

Corresponding Author: *Neonatal Research Center, Imam Reza Hospital, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran. Tel: (+98) 51 38521121 Mobile: (+ 98) 9153146917 Fax: (+98) 51 38525316 Email: mohamadzadeha@mums.ac.ir*

Background: In vitro fertilization is an assisted reproductive technology, commonly referred to as IVF. It is the process of fertilization by manually combining an egg and sperm in a laboratory dish and then transferring the embryo to the uterine. The aim of this study was to determine the frequency distribution of IVF in a private hospital.

Methods: All deliveries in a private hospital in north east of Iran (Mashhad) named Sina hospital were studied for IVF pregnancies for 3 months since 1.9.1394.

Result: There were 1256 deliveries for 3 months in this hospital. Fifteen mothers (1.2%) were fertilized by IVF. The mean infertility duration was 5.9 years. There was no side effect of IVF in their babies. Only in one mother, her baby was irritable.

Conclusion: The prevalence of IVF in this study was 12 in 1000 live births. Mean infertility duration was 6 years in these pregnant women.

Keywords: Prevalence, In vitro fertilization

P204: Chromium supplementation and the effects on metabolic status in women with polycystic ovary syndrome: a randomized, double-blind, placebo-controlled trial

Maryam Karamali [1], Mehri Jamilian [2], Mehrnush Amiri Siavashani [3], Akram Khassaf [4], Akram Hosseini [5], Zatollah Asemi [6], Razieh Sharif [7]

1- Department of Gynecology and Obstetrics, School of Medicine, Iran University of Medical Sciences, Tehran, Iran
2- Department of Gynecology and Obstetrics, School of Medicine, Arak University of Medical Sciences, Arak, Iran
3- Department of Gynecology and Obstetrics, School of Medicine, Qazvin University of Medical Sciences, Qazvin, Iran
4- Research Center for Biochemistry and Nutrition in Metabolic Diseases, Kashan University of Medical Sciences, Kashan, I.R. Iran
5- Research Center for Biochemistry and Nutrition in Metabolic Diseases, Kashan University of Medical Sciences, Kashan, I.R. Iran
6- Research Center for Biochemistry and Nutrition in Metabolic Diseases, Kashan University of Medical Sciences, Kashan, I.R. Iran
7- Research Center for Biochemistry and Nutrition in Metabolic Diseases, Kashan University of Medical Sciences, Kashan, I.R. Iran

Corresponding Author: *Maryam Karamali Department of Gynecology and Obstetrics, School of Medicine, Iran University of Medical Sciences, Tehran, Iran, email: karamali.maryam2@gmail.com*

Background: We are aware that no study examining the effects of chromium intake on markers of insulin metabolism and lipid profiles of women with polycystic ovary syndrome (PCOS) was done.

Methods: In a prospective, randomized, double-blind, placebo-controlled trial, 64 women with PCOS were randomized to receive 200 µg chromium picolinate supplements (n=32) or placebo (n=32) for 8 weeks. Fasting blood samples were obtained at baseline and 8 weeks after the intervention to quantify markers of insulin metabolism and lipid concentrations.

Result: At the end of the 8 weeks, chromium supplementation in women with PCOS resulted in significant decreases in serum insulin levels (-3.6±7.4 vs. +3.6±6.2 µIU/mL, P

Conclusion: 8 weeks of chromium supplementation among PCOS women had favorable effects on markers of insulin metabolism; however, it did not affect FPG and lipid profiles.

Keywords: Insulin metabolism, Lipid concentrations, Polycystic ovary syndrome, Supplementation, Chromium

P205: The effects of chromium supplementation on endocrine profiles, biomarkers of inflammation and oxidative stress in women with polycystic ovary syndrome: a randomized, double-blind, placebo-controlled trial

Mehrnush Amiri Siavashani [1], Mehri Jamilian [2], Maryam Karamali [3], Akram Khassaf [4], Akram Hosseini [5], Razieh Sharif [6], Zatollah Asemi [7]

1- Department of Gynecology and Obstetrics, School of Medicine, Qazvin University of Medical Sciences, Qazvin, Iran
2- Department of Gynecology and Obstetrics, School of Medicine, Arak University of Medical Sciences, Arak, Iran
3- Department of Gynecology and Obstetrics, School of Medicine, Iran University of Medical Sciences, Iran, Iran
4- Research Center for Biochemistry and Nutrition in Metabolic Diseases, Kashan University of Medical Sciences, Kashan, I.R. Iran
5- Research Center for Biochemistry and Nutrition in Metabolic Diseases, Kashan University of Medical Sciences, Kashan, I.R. Iran
6- Research Center for Biochemistry and Nutrition in Metabolic Diseases, Kashan University of Medical Sciences, Kashan, I.R. Iran
7- Research Center for Biochemistry and Nutrition in Metabolic Diseases, Kashan University of Medical Sciences, Kashan, I.R. Iran

Corresponding Author: *Department of Gynecology and Obstetrics, School of Medicine, Qazvin University of Medical Sciences, Qazvin, Iran, email: karamali.fateme2@gmail.com*

Background: Limited data are available indicating the effects of chromium administration on endocrine profiles, biomarkers of inflammation and oxidative stress among women with polycystic ovary syndrome (PCOS).

Methods: Participants of this randomized double-blind, placebo-controlled trial consisted of 60 patients with PCOS who received either 200 µg chromium supplements (n=30) or received placebo daily (n=30)

for 8 weeks. Endocrine profiles, inflammation factors and biomarkers of oxidative stress were assessed at study baseline and the end of the study.

Result: After 8 weeks of intervention, pregnancy rate in the chromium group was higher than in the placebo group: 16.7 (5/30) vs. 3.3% (1/30), P=0.08. In addition, acne (20.0 vs. 3.3 %, P=0.04) decreased following the administration of chromium supplements compared with the placebo. Compared with the placebo, taking chromium led to a significant reduction in hirsutism (-1.8±2.5 vs. -0.2±0.8, P=0.002), serum high sensitivity C-reactive protein (hs-CRP) (-717.0±1496.1 vs. +227.1±1669.6 ng/mL, P=0.02), plasma malondialdehyde (MDA) (-0.1±0.7 vs. +1.1±1.5 µmol/L, P

Conclusion: Overall, taking chromium for 8 weeks among PCOS women had beneficial effects on acne, hirsutism, hs-CRP, TAC, MDA levels, but it did not affect endocrine profiles, NO and GSH.

Keywords: Endocrine profiles, Inflammation, Polycystic ovary syndrome, Supplementation, Chromium

P206: Effect of AMH level on pregnancy rate in IVF cycle

Zahra Mehraban [1] , Mohammad ghasem Golmohammadi [2] , Mohsen Sagha [3]

1- Islamic Azad University, Ardabil, Iran
2- Department of Anatomical science ,school of medicine, Ardabil University of medical science, Ardabil Iran
3- Research Laboratory for Embryology and Stem cells,Department of Anatomical science, school of medicine, faculty of medicine, Ardabil University of medical science, Ardabil Iran

Corresponding Author: *Islamic Azad University, Ardabil, Iran, email: zahraob81@yahoo.com*

Background: Published studies generally say that age and AMH are independently related with live birth. However, some articles showed AMH also gives information about egg quality and IVF cycle success. The aim of this paper was to investigate whether serum anti-müllerian hormone (AMH), follicle stimulating hormone (FSH), or antral follicle count (AFC) are predictive for clinical pregnancy in women who undergo IVF cycles .

Methods: This article was a systematic review article.

Result: Some previous studies showed AMH was an independent predictor of clinical pregnancy rate in patient undergoing IVF cycle. According to a study, live birth rates of 46.2% (patient age 39) were connected with concentrations of AMH>1.4 ng/ml. In other paper, the pregnancy rate was 56.8% for patients with AMH levels >4.0 ng/mL and 20.0% for patients with AMH levels

Conclusion: The basal serum concentration of AMH may become a new, considerable prognostic factor regarding live birth beyond other currently available predictors of IVF outcome. This report confirms that AMH level correlated better than age, FSH or inhibin B concentrations or AFC with live birth outcome. For patients aged

Keywords: IVF, Pregnancy rate, Anti-Müllerian hormone (AMH)

P207: Herbal compound in endometriosis treatment

Zahra Mehraban [1] , Hamid Nazarian [2] , Maryam Karimi [3] , Fereshteh Hassanpoor [4]

1- Islamic Azad University, Ardabil, Iran
2- Department of Biology and Anatomical science ,Faculty of medicine, Shahid Beheshti university of medical science , Tehran, Iran
3- Infertility and reproductive health research center ,Shahid Beheshti university of medical science ,Tehran,Iran
4- Bacheloar student of midwifery,Ardabil branch,Islamic Azad university,Ardabil,Iran

Corresponding Author: *Islamic Azad University, Ardabil, Iran, email: zahraob81@yahoo.com*

Background: A lot of evidence suggest that oxidative stress, which is caused by reactive oxygen species, contributes to several aspects of endometriosis . Therefore, it is not surprising that natural compounds (green tea, curcumin, Resveratrol) which possess considerable antioxidant properties, have been studied in the context of endometriosis. The aim of our study was to evaluate the effects of these natural compound on endometriosis treatment.

Methods: This article was a systematic review article.

Result: Curcumin has anti inflammatory , antioxidantial and anti proliferative properties. Preclinical studies have suggested that by signaling pathway inhibitory NF-Kb translocation and MMP

expression would occur. According to some data , E2 is important in ectopic endometrium ,curcumin was able to suppress the proliferation of endometrial cell by reducing the E2 value after intervening with curcumin .The number of endometrial stromal cell was reduced and cells growth was slowed. Natural phytoalexins produced by some grape species, peanuts and berries have anti- carcinogenic ,anti-inflammatory, antioxidant properties, pro apoptotic and anti angiogenic effects in preclinical research of endometriosis. Some data indicated the resveratrol effect on endometriosis by decreasing VEGF level. In addition, resveratrol treatment reduced endometrial implant by 60% and total volume of lesion by 80%. Epigallocatechin 3 gallate (EGCG) is the major catechin found. Green tea has antioxidant, antiangiogenic and anti proliferation effects. Reports point out that the antiangiogenic and anti oxidation properties of ECGC might be a promising therapeutic agent in the treatment of endometriosis and ECGC specifically suppressed E2 induced endometrial cell.

Conclusion: Our data indicate that these natural compounds may have some effect on endometriosis. However, more rigorous research is required to accurately assess the potential role of these herbal compounds in treating endometriosis.

Keywords: Curcumin, Endometriosis, Green tea, Resveratrol, Herbal compound

P208: Is there association between menopause and serum level of nitric oxide?

Samira Behboudi-Gandevani [1] , Fahimeh Ramezani Tehrani [2] , Asghar Ghasemi [3] , Fereidoun Azizi [4]

1- Reproductive Endocrinology Research Center, Research Institute for Endocrine Sciences, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
2- Reproductive Endocrinology Research Center, Research Institute for Endocrine Sciences, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
3- Endocrine Physiology Research Center, Research Institute for Endocrine Sciences, Shahid Beheshti University of Medical Sciences, Tehran
4- Endocrine Research Center, Research Institute for Endocrine Sciences, Shahid Beheshti University of Medical Sciences, Tehran, Iran

Corresponding Author: *Samira Behboudi-Gandevani. Reproductive Endocrinology Research Center, Research Institute for Endocrine Sciences, Shahid Beheshti University of Medical Sciences, Tehran, Iran. a. Email: behboudi@endocrine.ac.ir, s.behboudi@hotmail.com b. Tel: +98-021-22432500 c. P.O.Box: 19395-4763, d. Address: Research Institute for Endocrine Sciences, No 24, Parvane Street, Yaman Street, Velenjak, Tehran, Iran.*

Background: Menopause could increase cardiovascular disease (CVD) risk. Nitric oxide (NO) plays a role in the protection against CVD onset and progression. Several studies support the menopause could increase the risk of cardiovascular disease. Also, no evidence was found for estrogen-induced cardioprotection, but direct evidence has not been studied before. The aim of this study was to investigate the association between serum nitric oxide levels and menopausal status of women.

Methods: A total of 605 eligible subjects, aged 35-60 years, were recruited from among participants of the Tehran lipid and glucose study, and subdivided into two groups: postmenopausal women with natural amenorrhea for more than 13 months, (n = 117) and BMI-matched women with regular cycles (n = 117). Medians (inter-quartile ranges) of NOx values were compared between these groups after adjustment for confounder of lipids.

Result: Women with postmenopausal status had higher serum levels of NOx values than those women with regular cycle. There were statistically significant differences between the medians (inter-quartile ranges) of serum NOx levels in postmenopausal women compared with women with regular cycles, 23.4 (19-36) and 28 (20-41) μmol/L], respectively (P = 0.01).The results remained unchanged after further adjustment for potential confounders of lipids.

Conclusion: These results provide evidence that serum NOx values increased in menopause, but the causality of this increment needs to be established in future studies.

Keywords: Menopause, Nitric oxide

P209: Prevalence of pregnancy complications in different phenotypes of polycystic ovary syndrome

Marzieh Rostami Dovom [1] , Fahimeh Ramezani Tehrani [2] , Maryam Farahmand [3] , Mahsa Noroozzadeh [4]

1- Reproductive Endocrinology Research Center, Research Institute for Endocrine Sciences, Shahid Beheshti University of Medical Sciences, Tehran, Iran
2- Reproductive Endocrinology Research Center, Research

Institute for Endocrine Sciences Shahid Beheshti University of Medical Sciences, Tehran, I.R.
3- Reproductive Endocrinology Research Center, Research Institute for Endocrine Sciences Shahid Beheshti University of Medical Sciences, Tehran, I.R.
4- Reproductive Endocrinology Research Center, Research Institute for Endocrine Sciences Shahid Beheshti University of Medical Sciences, Tehran, I.R.

Corresponding Author: *Institute of Endocrine Research Sciences NO.23, Shahid Arabi St., Yaman Ave., Velnjak Tehran, Iran Rostami Dovom M 1, Ramezani Tehrani F 1, Farahman M 1, Noroozzadeh M 1, Azizi F 2 1 Reproductive Endocrinology Research Center, Research Institute for Endocrine Sciences, Shahid Beheshti University of Medical Sciences, Tehran, Iran 2 Endocrinology Research Center, & Research Institute for Endocrine Sciences, Shahid Beheshti University of Medical Sciences, Tehran, Iran E-mail: ramezani@endocrine.ac.ir*

Background: Studies have shown that the maternal and neonatal outcomes in polycystic ovary syndrome (PCOS) in pregnant women are higher than non-PCOS women. After consensus in Rotterdam conference, new phenotypes were defined for this syndrome. This study aimed to assess the prevalence of pregnancy outcomes in women with different PCOS phenotypes.

Methods: In this retrospective study, a total of 266 reproductive aged women, whose PCOS was diagnosed by Rotterdam criteria participated in this study and based on their clinical characteristics were divided in two groups (group 1: who have had all three signs of PCOS included an/oligoovulation, hyperandrogenism and polycystic ovary feature in ultra-sonography images (PCOM) or an/oligoovulation, hyperandrogenism and group 2: who have had just two of three characteristics of PCOS included an/oligoovulation and PCOM or hyperandrogenism and PCOM). All demographic, anthropometric, and reproductive history of participants was asked by a questionnaire.The hormonal and biochemical information was extracted from their medical records. Data was analyzed by using Mann-Whitney, T-Test and chi2 statistical tests.

Result: There was no significant differences between demographic and anthropometric characteristics between two groups with the Freeman-Gallwey score (8 vs. 4 for group 1 and 2 respectively). The prevalence of low birth weight (LBW) and preterm labor were significantly (P

Conclusion: Prevalence of preterm labor and LBW in PCOS pregnant women in severe PCOS women was higher than new defined phenotypes in Rotterdam consensus and it should be noticed in clinical considerations.

Keywords: Complication, PCOS phenotypes, Pregnancy, Polycystic ovary syndrome

P210: Endometriosis and cancer

Mozhgan Kohzadi [1]

1- Faculty of Medicine, Department of Anatomy, Kermanshah University of Medical Science (KUMS), Kermanshah, Iran

Corresponding Author: *Faculty of Medicine, Department of Anatomy, Kermanshah University of Medical Science (KUMS), Kermanshah, Iran, email: kohzadi.mozhgan@yahoo.com*

Background: Endometriosis is a disease in which the endometrial glands and stroma grow and multiply outside the uterus. This is a progressive disease and affects women of reproductive age, and creates progressive symptoms such as pelvic pain, dysmenorrhea and infertility. Recent studies show a relationship between endometriosis and cancer risk in women with this disease.

Methods: The aim of this study was to review the available studies on the role of endometriosis and cancer in women. For this purpose, the articles in databases Pubmed and Google scholar in connection with the evaluation of the relationship between endometriosis and cancer in women were searched.

Result: A number of studies show a significant association between endometriosis and risk of cancer in women, especially, the ovarian, endometrial and breast cancer. Most of studies expressed these mechanisms of hormonal and hormonal imbalances, and a number of studies expressed genetic influence or increased tumor markers such as CA-125 in the process and a small number of studies do not suggest any connection.

Conclusion: Due to the increasing prevalence of endometriosis in a developing country and the results of the effects of endometriosis in cancer, it seems that epidemiological studies to determine the exact prevalence of endometriosis and its relationship with cancer in an effective step to promote health women are necessary.

Keywords: CA-125, Cancer, Endometriosis

P211: Subclinical hypothyroidism in pregnancy and miscarriages

Sima Nazarpour [1] , Fahimeh Ramezani Tehrani [2] , Masoumeh Simbar [3] , Maryam Tohidi [4] , Hamid Alavi Majd [5] , Fereidoun Azizi [6]

1- Department of Midwifery, Faculty of Nursing and Midwifery, Islamic Azad University, Varamin-Pishva branch, Tehran, Iran. Department of Reproductive Health and Midwifery, Faculty of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences and Health Services, Tehran, Iran
2- Reproductive Endocrinology Research Center, Research Institute for Endocrine Sciences, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
3- Department of Reproductive Health and Midwifery, Faculty of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences and Health Services, Tehran, Iran.
4- Prevention of Metabolic Disorders Research Center, Research Institute for Endocrine Sciences, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
5- Department of Biostatistics, Faculty of Paramedicine, Shahid Beheshti University of Medical Sciences and Health Services, Tehran, Iran.
6- Endocrine Research Center, Research Institute for Endocrine Sciences, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

Corresponding Author: *Sima Nazarpour, Department of Midwifery, Faculty of Nursing and Midwifery, Islamic Azad University, Varamin-Pishva branch, Tehran, Iran. Department of Reproductive Health and Midwifery, Faculty of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences and Health Services, Tehran, Iran, email: nazarpoursima@yahoo.com*

Background: Subclinical hypothyroidism (SCH) is the most common thyroid dysfunction during pregnancy. While the adverse effects of SCH accompanied with positive TPO antibodies or overt hypothyroidism on pregnancy outcome are well known, there is controversy on negative impact of SCH without autoimmunity on pregnancy outcomes. We aimed to assess whether pregnant women subclinical hypothyroidism TPOAb negative are affected by a higher rate of miscarriage.

Methods: A prospective study was carried out on pregnant women from first trimester to delivery. The study was conducted among pregnant women receiving prenatal care in centers under coverage of Shahid Beheshti University of Medical Sciences. In this study, 1600 pregnant women in their first trimester were selected. The pregnant women were screened for thyroid dysfunction by measurement of serum concentrations of TSH,T4 (TT4), T-uptake and TPOAb.

Result: 63.5% (n=1016) had normal thyroid function and 34.2% (n=506) had thyroid disorders, including overt hyperthyroidism (0.8%, n=12), overt hypothyroidism (3.8%, n=60), subclinical hypothyroidism (29.8%, n=476) including positive TPOAb (5.4%, n=86) and TPOAb negative (24.4%, n=390). The prevalence of miscarriages in pregnant women with subclinical hypothyroidism TPOAb negative was significantly higher than women without thyroid disorder (1.3% vs. 4.7%, p

Conclusion: The results of this study indicate that pregnant women with SCH had increased risks of miscarriage. Thus, routine maternal thyroid function testing is necessary to improve maternal and perinatal outcomes.

Keywords: Miscarriage, Pregnancy, Subclinical hypothyroidism

P212: The study of cell proliferation and TNF-α cytokine production in peripheral blood lymphocytes of women with polycystic ovary syndrome (PCOS) by co-culture with ovarian and breast tumor cell lines

Mehri Hajiaghayi [1] , Fatemeh Rezayat [2] , Nariman Mosaffa [3] , Fahimeh Ramezani [4] , Mehrnaz Mesdaghi [5]

1- Department of Immunology, Faculty of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran
2- Department of Immunology, Faculty of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
3- PhD in immunology, Department of Immunology, Faculty of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
4- Full Professor, Reproductive Endocrinology Research Center, Research Institute for Endocrine Sciences, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
5- PhD in immunology, Department of Immunology, Faculty of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

Corresponding Author: *Department of Immunology, Faculty of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran, email: mehri.hajiaghayi@gmail.com*

Background: Polycystic ovarian syndrome (PCOS) is a proinflammatory state that underpins the development of metabolic aberration and ovarian dysfunction in the disorder. Chronic inflammation and increased levels of androgens in this group of patients and their impact on the immune system, may be able to

disrupt the antitumor activity and thus increase the risk of developing malignancies including ovarian cancer.

Methods: Peripheral blood mononuclear cells of 50 patients with PCOS and healthy samples were purified by Ficoll density gradient centrifugation. Then, we measured the cell proliferation and concentrations of cytokines TNF-α at different time intervals (48 and 72 hours) after co-culture of ovarian (SKOV3, A2780) and breast (MCF-7, MDA-468) tumor cell lines with PBMC in indirect contact of transwell system.

Result: Proliferative response of executive cells during stimulation with ovarian tumor cell lines despite lower average in the control group was not statistically significant. However, this response after 48 hours of co-culture with breast tumor cell lines was significantly different between two groups (P

Conclusion: The low level of chronic inflammation in patients with PCOS was approved by increased proliferative response of effector cells and secreted TNF-α levels compared to healthy individuals. However, an increased risk of cancers in patients with PCOS, requires an examination of other aspects of anti-tumor responses in vitro.

Keywords: Breast cancer, Chronic inflammation, Co-culture, Ovarian cancer, Polycystic ovarian syndrome

P213: Comparison of the ultrashort gonadotropin releasing hormone(GnRH) agonist/antagonist protocol with long GnRH agonist protocol in normal responders who underwent controlled ovarian hyperstimulation

Golnaz Rezaeizadeh [1] , Fatemeh Sarvi [2] , Fatemeh Fakharmoghadam [3] , Ashraf Alleyassin [4] , Marzieh Agha-Hosseini [5]

1- Family Health Institute, Maternal, Fetal and Neonatal Research Center, Tehran University of Medical Sciences,Tehran, Iran
2- Infertility Department, Shariati Hospital, Tehran University of Medical Sciences, Tehran, Iran.
3- Infertility Department, Shariati Hospital, Tehran University of Medical Sciences, Tehran, Iran.
4- Infertility Department, Shariati Hospital, Tehran University of Medical Sciences, Tehran, Iran.
5- Infertility Department, Shariati Hospital, Tehran University of Medical Sciences, Tehran, Iran.

Corresponding Author: *Golnaz, Rezayizadeh, 2nd Floor, Maternal, Fetal and Neonatal Research Center, Vali-Asr Hospital, Imam Khomeini Hospital, BagherKhan Ave, Tehran, Iran, Email: golnaz_rezaei80@yahoo.com*

Background: Many stimulation protocols have been introduced for controlled ovarian hyperstimulation(COH) and one of the most commonly used protocols is the long GnRH protocol (long). We conducted this study on normal responder patients and compared long protocol with ultrashort GnRH agonist/antagonist protocol(ultrashort), a recently introduced protocol, which has shown successful outcomes with less complications especially in poor responders and repeated in vitro fertilization failures.

Methods: This non-randomized clinical trial was performed on 110 (long:54, ultrashort:56) normal responders (antral follicle ≥ 5, AMH≥1 ng/ml, BMI≥30, age< 40 years) who underwent COH in Shariati Hospital IVF Center, an educational hospital affiliated with Tehran University of Medical Sciences, from October 2014 to October 2015.

Result: The groups were the same in every outcomes except in the number of prescribed gonadotropins which was significantly higher (P=0.032) in the long group (mean±SD=48.5±16.86) than the ultrashort group (mean±SD=42.5±11.76) and also in BMI which was significantly higher (P=0.003) in the ultrashort group (mean±SD=27.194±2.447) than the long group (mean±SD=25.534±3.272). Linear regression analysis showed that the number of prescribed gonadotropins was only significantly correlated with age (p=0.001, OR=0.321, CI:0.388-1.52) and AMH level (p=0.041, OR= -0.188, CI: -7.23_ -0.158) which were the same in both groups.

Conclusion: Despite prescribing more gonadotropins in long group, outcomes were the same as ultrashort group. Therefore, ultrashort protocol application in normal responders seems more logical than long protocol.

Keywords: In vitro fertilization, Long GnRH protocol, Ovulation induction, Ultrashort GnRH agonist/antagonist protocol, Controlled ovarian hyperstimulation

P214: Effect of the current hormonal treatments on clinical and laboratory findings in patients with polycystic ovary syndrome: a systematic review

Mina Amiri [1] , Fahimeh Ramezani Tehrani [2]

1- Students Research Committee, Shahid Beheshti University of Medical Sciences, Tehran, Iran
2- Reproductive Endocrinology Research Center, Research Institute for Endocrine Sciences Shahid Beheshti University of Medical Sciences, Tehran, Iran.

Corresponding Author: *Fahimeh Ramezani Tehrani, Reproductive Endocrinology Research Center, Research Institute for Endocrine Sciences, Shahid Beheshti University of Medical Sciences, Tehran, Iran, Email: fah.tehrani@gmail.com*

Background: Polycystic ovary syndrome (PCOS) is the most common endocrine disorder affecting women in reproductive age. This syndrome is characterized by ovulatory dysfunction and clinical or biochemical hyperandrogenism. Oral contraceptives containing Cyproterone acetate (CPA), Drospirenone (DRSP), Desogestrel (DSG) in combination with estrogens can be improve hyperandrogenism. The aim of this study was to assess the current hormonal treatments on clinical and laboratory findings in patients with polycystic ovary syndrome.

Methods: PubMed ،Scopus ،Scholar Google, SID and Cochrane databases (from inception date until 2015) were searched to identify clinical trials investigating effect of the oral contraceptives containing CPA, DRSP and DSG on clinical and laboratory findings in patients with PCOS.

Result: Most studies included in the review showed an improvement in the hormonal profile and clinical after hormonal contraceptives. Almost all contraceptives assessed had same effects to decrease the androgens. Although some studies reported the effect of all contraceptives on clinical findings but it seems acne and hirsutism were more resistant to treatment.

Conclusion: Although some studies have shown the effectiveness of the new oral contraceptives but there is a contradictory in the results. To confirm the effectiveness of current hormonal treatments on clinical and laboratory findings, designing the clinical controlled trials with a control, comparative groups which have different arms is necessary.

Keywords: Androgens, Contraceptives, Hirsutism, Polycystic ovary syndrome

P215: Effect of treatment protocols on oocytes development undergoing IVF/ICSI treatment in women with polycystic ovary syndrome (PCOS): a systematic review

Mina Amiri [1]

1- Students Research Committee, Shahid Beheshti University of Medical Sciences, Tehran, Iran

Corresponding Author: *Mina Amiri, Students Research Committee, Shahid Beheshti University of Medical Sciences, Tehran, Iran, Email: minia_amiri_p@yahoo.com*

Background: Polycystic ovary syndrome (PCOS) is a frequent cause of anovulatory infertility that is associated with hyperandrogenism. Excessive secretion of LH and hyperandrogenemia are associated with reduced oocyte quality, impaired implantation, clinical pregnancy and increased abortion in these patients. Some treatment protocols can improve maturation and quality of oocytes.

Methods: PubMed, Science Direct, Google scholar, and Cochrane databases (2006–2015) were searched to identify publications about the effect of treatment protocols on oocytes development undergoing in vitro fertilization / intra cytoplasmic sperm injection (IVF/ICSI) treatment in women with PCOS.

Result: Some studies showed that in patients with PCOS, treatment with inositol or metformin increase oocytes development. There was no significant difference in oocyte development between the gonadotropin-releasing hormone (GnRH) agonist and antagonist protocols. Some studies showed a favorable effect of GnRH antagonists in reducing the incidence of ovarian hyperstimulation syndrome (OHSS) and the number of assisted fertilization cycles cancelled.

Conclusion: Ovarian stimulation for PCOS is complicated by under- and overstimulation, several ovulation induction protocols, and a variety of gonadotropins used for ovulation induction for PCOS. So selection of a treatment protocol with less side effects should be considered for patients.

Keywords: Gonadotropin-releasing hormone (GnRH), Intra cytoplasmic sperm injection (ICSI), Oocyte development, Polycystic ovary syndrome (PCOS), In vitro fertilization (IVF)

P216: The effects of mobile phone and Wi-Fi frequencies on oxidative stress in reproductive system

Padideh Janati Ataei [1]

1- Department of Midwifery and Reproductive Health , School of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences, Tehran, Iran

Corresponding Author: *Padideh Janati Ataei, Department of Midwifery and Reproductive Health , School of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences, Tehran, Iran, Postal Address: Vali-Asr Avenue, Cross of Vali-Asr and Neiaiesh Highway, Opposite to Rajaee Heart Hospital, Tehran, Iran . Email: padidehjanati@yahoo.com*

Background: Environmental exposure to electromagnetic radiation (EMR) has been increasing with the increasing demand for communication devices. The rapid increase in wireless local area networks in our daily environment, especially in private, academic and clinical surroundings, has caused great public concern about the possible effects on human health.

Methods: This study reviewed the latest published literature that investigated the effect of EMR sources on reproductive functions and oxidative biology in females and males.

Result: Exposure to radiofrequency electromagnetic waves (RF EMW) could potentially exert thermal and nonthermal effects on biological tissue. Heat is mostly generated from the handset, but the thermal effects of mobile phone radiation seem less probable as adverse heating effects. Nonthermal effects of mobile phones on the male reproductive system include increased generation of seminal reactive oxygen species and reduction in antioxidant enzymes leading to oxidative stress, chromosomal damage and micronuclei formation, altered spermatozoal membrane potential and signal transduction (decreased calcium efflux, histone kinase and protein kinase C), altered sperm proliferative activity, increased caspase activation leading to apoptosis, suppression of testicular steroidogenesis and reduced testosterone levels, leading to decreased spermatogenesis. The results of some studies indicate that EMR induced endometriosis and inflammation and decreased the number of follicles in the ovary or uterus of rats. In some cases of male and female infertility, increased levels of oxidative stress and lipid peroxidation and decreased values of antioxidants such as melatonin, vitamin E and glutathione peroxidase were reported in animals exposed to EMR.

Conclusion: In conclusion, the results of current studies indicate that oxidative stress from exposure to Wi- Fi and mobile phone-induced EMR is a significant mechanism affecting female and male reproductive systems.

Keywords: Electromagnetic radiation, Reproduction, Oxidative stress

P217: The effects of soy isoflavones on metabolic status of patients with polycystic ovary syndrome: a randomized, double-blind, placebo-controlled trial

Zatollah Asemi [1] , Mehri Jamilian [2] , Maryam Karamali [3] , Zahra Vahedpoor [4] , Mansooreh Samimi [5] , Mehrnush Amiri Siavashani [6]

1- Research Center for Biochemistry and Nutrition in Metabolic Diseases, Kashan University of Medical Sciences, Kashan, Iran
2- Department of Gynecology and Obstetrics, School of Medicine, Arak University of Medical Sciences, Arak, Iran
3- Department of Gynecology and Obstetrics, School of Medicine, Iran University of Medical Sciences, Iran, Iran
4- Department of Gynecology and Obstetrics, School of Medicine, Kashan University of Medical Sciences, Kashan, Iran
5- Department of Gynecology and Obstetrics, School of Medicine, Kashan University of Medical Sciences, Kashan, Iran
6- Department of Gynecology and Obstetrics, School of Medicine, Qazvin University of Medical Sciences, Qazvin, Iran

Corresponding Author: *Zatollah Asemi, Research Center for Biochemistry and Nutrition in Metabolic Diseases, Kashan University of Medical Sciences, Kashan, Iran, Email: asemi_r@yahoo.com*

Background: Limited data are available evaluating the effects of soy isoflavones on metabolic status of patients with polycystic ovary syndrome (PCOS).

Methods: This randomized double-blind, placebo-controlled trial was performed on 70 women diagnosed with PCOS according to the Rotterdam criteria aged 18-40 years old. Participants were randomly allocated into two groups to intake either 50 mg/d soy isoflavones (n=35) or placebo (n=35) for 12 weeks. Metabolic, endocrine, inflammation and oxidative stress biomarkers were quantified at the beginning and after 12-week intervention.

Result: After 12 weeks of intervention, compared to the placebo group, soy isoflavones administration significantly decreased circulating serum levels of insulin (-1.5±8.0 vs. +3.0±8.6 µIU/mL, P=0.02),

homeostasis model of assessment-estimated insulin resistance (-1.1±2.0 vs. +1.2±2.7, P=0.002), and increased quantitative insulin sensitivity check index (+0.01±0.03 vs. -0.007±0.02, P=0.004). Supplementation with soy isoflavones resulted in significant differences in serum triglycerides (-6.9±25.1 vs. +9.3±24.0 mg/dL, P=0.03) and VLDL-cholesterol changes (-1.2±4.5 vs. +3.2±3.6 mg/dL, P=0.03) compared to the control group. There were a significant increase in plasma total glutathione (+93.3±117.3 vs. -21.3±145.7 µmol/L, P=0.004) and a significant decrease in malondialdehyde levels (-1.4±1.2 vs. +0.4±0.8 µmol/L, P

Conclusion: Soy isoflavones administration for 12 weeks in PCOS women significantly improved markers of oxidative stress, triglycerides and biomarkers of oxidative stress.

Keywords: Metabolic status, Polycystic ovary syndrome, Soy isoflavones

P218: A review on controversies about role of the immune and inflammatory systems in implantation process and durability of pregnancy

Seyyed Amir Yasin Ahmadi [1] , Farhad Shahsavar [2]

1- Student Research Committee, Lorestan University of Medical Sciences, Khorramabad, Iran
2- Assoc Prof, Department of immunology, Lorestan University of Medical Sciences, Khorramabad, Iran

Corresponding Author: *Seyyed Amir Yasin Ahmadi, Email: yasin_ahmadi73@yahoo.com*

Background: Among the controversies about the reproduction sciences, role of the immune and inflammatory systems in implantation process and durability of pregnancy is a hot topic nowadays. Such controversies and therapeutics are proposed both in natural pregnancies resulting in spontaneous abortion and the success rate of assisted reproductive technologies (ARTs). So we intended to represent and report our insights, reasoning and suggestions in the present review.

Methods: This systematic and critical review included investigation of scientific data bases and tracing of the successive citations.

Result: Our findings falls into three categories; role of immune system and leukocytes, vascular remodeling and histopathology of endometrium, role of inflammation in implantation.

Conclusion: At the end of present review, it was suggested that using a valid protocol is necessary for infertility clinical centers and instead of using aspirin, heparin and prednisolone -that are produced basically for another aims- we should design novel immunologic based drugs that of course they should not be used in a way to maintain malformed embryos -which are supposed to be aborted anyway.

Keywords: Implantation, Pregnancy maintenance, Reproductive immunology, Infertility

P219: Endometriosis and pain: a qualitative study

Hedyeh Riazi [1] , Najmeh Tehranian [2] , Saeideh Ziaei [3] , Eesa Mohammadi [4] , Ebrahim Hajizadeh [5]

1- Department of Reproductive Health and Midwifery, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran. 2- Department of Midwifery and Reproductive Health, School of Nursing and Midwifery, Shahid Beheshti University of Medical Scinces, Tehran, Iran
2- Assistant Professor, Department of Reproductive Health and Midwifery, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran
3- Professor, Department of Reproductive Health and Midwifery, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran
4- Professor, Department of Nursing, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran
5- Professor, Department of Biostatistics, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran

Corresponding Author: *Hedieh Riazi, Vali-Asr Avenue, Cross of Vali Asr and Niyayesh Highway,School of Nursing and Midwifery, Department of Midwifery.Email: h.riazi@sbmu.ac.ir*

Background: Endometriosis is a chronic and debilitating disease which is associated with a variety of morbid symptoms. This study aimed at exploring the perception and experiences of patients with endometriosis about pain.

Methods: A qualitative research was performed in 18 patients with endometriosis attending Arash Hospital (Tehran, 2014). They were selected by purposive sampling. Data was collected by semi-structured interview and analyzed using a conventional content analysis.

Result: Two main themes emerged from the participants' experiences: 1) disruption of individual and family life and 2) feelings of threat and vulnerability. The first theme included two categories: suffering varied and diffused pain and disruption of sexual activity. Categories of the second theme were: complaints of severe and intolerable pain and various actions taken to reduce the pain.

Conclusion: The findings suggest that patients with endometriosis suffer various pains that influence different parts of the body. These pains are often felt with great intensity and may have devastating consequences on their lives. Deep attention should be paied to the symptoms of these patients and health authorities should not trivialize their pain so that early diagnosis is made and suitable interventions are performed to promote such patients' health.

Keywords: Pain, Qualitative research, Endometriosis

P220: Study of toxic effect of nano zinc oxide on development of seminiferous tubules in the mouse embryo

Mahdie Sohrabian [1] , Fateme Asrardel [2] , Kazem Parivar [3] , Alireza Badiei [4] , Nasim Hayati [5]

1- Department of Biology, Faculty of Science, Science and Research, Islamic Azad University, Tehran, Iran
2- Department of Biology, Faculty of Science, Science and Research, Islamic Azad University, Tehran, Iran
3- Department of Biology, Faculty of Sciences, Azad University, Science and Research Branch, Tehran, Iran
4- Department of Chemistry, Faculty of Chemistry, University of Tehran, Iran.
5- Department of Biology, Faculty of Science, Science and Research, Islamic Azad University, Tehran, Iran

Corresponding Author: *Mahdie Sohrabian, Department of Biology, Faculty of Science, Science and Research, Islamic Azad University, Tehran, Iran Email:sohrabian.mahdie@yahoo.com*

Background: Nano materials can pass through the body' biological barriers such as the placenta and affect the health fetus. Therefore, the purpose of this study was to investigate the toxicity effects of zinc oxide nano particles on seminiferous tubules development in mouse fetal.

Methods: In this study, different values of nano zinc oxide, including 50, 150, 250, 350, 500,600 mg/ kg of body weight ,were injected into the body of the female mice on the 12th day of pregnancy.On day 18 of pregnancy, the embryos were removed from the uteruses via cesarean sections, and the testes were removed from the male embryos for morphological, histological, and statistical studies.

Result: Results showed significant reductions (p

Conclusion: According to the results of this research,nano zinc oxide in the mentioned quantities can disrupt the development of seminiferous tubules. Based on results of previous studies, reductions in the number of seminiferous tubules can lower the number of reproductive cells leading to reduced fertility. Due to the extensive use of nano zinc oxide, and given the importance and sensitivity of sex cells and organs, complementary research is needed to clarify the mechanism of action of this compound on the development of embryonic organs.

Keywords: Mouse embryo, Pregnancy, Seminiferous tubules development , Nano zinc oxide

P221: Molecular analysis of VEGF in susceptibility to endometriosis in Iranian women

Negar Sarhangi [1] , Maryam Shahrabi-Farahani [2]

1- Department of Molecular and Cellular Sciences, Faculty of Advanced Sciences and Technology, Pharmaceutical Sciences Branch, Islamic Azad University, Tehran, Iran
2- Endocrinology and Metabolism Research Center, Endocrinology and Metabolism Clinical Sciences Institute, Tehran University of Medical Sciences, Tehran,Iran

Corresponding Author: *Negar Sarhangi, Endocrinology and Metabolism Research Center, Tehran University of Medical Sciences, Tehran, Iran, Email: nsarhangi98@gmail.com*

Background: Endometriosis is a chronic gynecological disease with an unclear pathophysiology characterized by the presence of the endometrium outside the uterine cavity. Genetic, endocrine, immunological, and environmental factors have been suggested in its pathogenesis. It is a multifactorial and polygenic disease in which angiogenesis may be implicated. Angiogenesis is under the control of numerous inducers, including vascular endothelial growth factor (VEGF). Vascular endothelial growth factor (VEGF) is an endothelial cell-specific angiogenic protein suspected to be involved in the pathogenesis of endometriosis by establishing a new blood supply to the human exfoliated endometrium.

The aim of the present study was to assess the role of the vascular endothelial growth factor (VEGF) +936 C/T polymorphism in susceptibility to endometriosis.

Methods: This study comprised 100 Iranian women with endometriosis and 200 healthy women without endometriosis were recruited as control. Genotyping of the VEGF gene polymorphisms at +936 C/T was performed by PCR and restriction fragment length polymorphism analysis.

Result: The frequency of the TT, CT, and CC genotype was 83 versus 79.5%, 16 versus 19.5%, and 1 versus 1% in patients and controls, respectively. A statistically significant difference was observed for genotype distribution among the patients and controls. There was a significant increase in the T allele frequency in the patients as compared with controls (83 versus 79.5%, p =

Conclusion: Our results indicate that VEGF +936T/C gene polymorphism is associated with increased susceptibility to endometriosis and may be a risk factor for it in the Iranian population.

Keywords: Endometriosis, Gene polymorphism, VEGF

P222: Prevalence of OCT1 polymorphism and its association with response to metformin in women with pcos

Maryam Behjoo [1] , Mohsen Miresmaeili [2] , Raziyeh Dehghani Firoozabadi [3] , Habib Allah Nazem [4] , Maryam Khademi Bami [5] , Zhima Akhavan Sales [6] , Soghra Shamsadini [7] , Maryam Golzadeh [8] , Sepideh Kafi [9] , Samira Sabbagh Nejad [10] , Seyed Mehdi Kalantar [11]

1- Payame Noor Universiti, Taft, Yazd, Iran
2- Department of Biology, Science And Art University, Yazd, Iran
3- Research and Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran
4- Payame Noor Universiti, Taft, Yazd, Iran
5- Research and Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran
6- Shahid Sadoughi University of Medical Sciences, Yazd, Iran
7- Payame Noor Universiti, Taft, Yazd, Iran
8- Research and Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran
9- Islamic Azad University Ashkezar, Yazd, Iran
10- Research and Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran
11- Research and Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran

Corresponding Author: *Maryam Behjou, Shahid Sadoughi University of Medical Sciences, Yazd, Iran, Email: ma.behjoo@yahoo.com*

Background: Polycystic ovary syndrome (PCOs) is a complex endocrine disorder, affecting up to 15% of women of reproductive age. PCOs is a highly complex and heterogeneous disorder with significant contributions of both genetic and environmental factors. More than ten genes for relationships with PCOs were introduced and are being studied. One of these genes is SLC22A1. The human SLC22A1 gene encoded organic cation transporter (OCT1). OCT1 is transporter of metformin in the liver. Metformin is widely used for PCOs treatment.

Methods: A total of 50 PCOs patients aged 16–45 yr with clinical phenotype formed the study group. They administered oral doses of metformin daily for tree months. Before and after 45 days of treatment with metformin, blood level of LH was measured. Genomic DNA was extracted from peripheral blood and RFLP-PCR was performed by using one pair primer for R61C polymorphism.

Result: Four of the patients (8%) were heterozygous (CT allele), and two of them responded to metformin and level of blood LH was decreased.

Conclusion: According to the recent results, assessment of the increase or decreases of the blood level of LH is not related to individual genotype for R61C polymorphism in OCT1 gene.

Keywords: PCO syndrome, R61C polymorphism, RFLP-PCR, SLC22A1, OCT1

P223: The survey of infertile women referred to infertility center of Motazedi Hospital, Kermanshah, Iran in 2001-2014

Nasrin Jalilian [1] , Maryam Hematti [2]

1- Maternity Research Center, University of Medical Sciences ,Kermanshah, Iran,
2- MCS in statistics, Maternity Research Center, University of Medical Sciences ,Kermanshah Iran, Imam Reza teaching hospital.

Corresponding Author: *Nasrin Jalilian, Maternity Research Center, University of Medical Sciences ,Kermanshah, Iran, Email: njalilian@yahoo.com*

Background: Nowadays, progress in assisted reproductive technology (ART) has enabled the clinicians to treat infertility significantly. In this study, we assessed the efficacy of ART on pregnancy outcome among infertile women who presented to the Infertility Center of Motazedi Hospital in Kermanshah, Iran.

Methods: In this cross-sectional study, infertile women who received ART such as intra-cytoplasmic sperm injection embryo transfer (ICSI-ET) or in vitro fertilization (IVF) were included. Thirty-three patients received IVF. Pregnancy outcomes were determined. The data were entered into a checklist and were analyzed using SPSS software (ver. 18.0).

Result: Mean (SD) age of the patients was 32.6 (5.7) years. Age range was 18-43 years. Male factor was diagnosed as the cause of infertility in 14 cases (42%), tubal factors in 4 cases (12.1%), and anovulation in 2 cases (6.1%) . In one patient (3%), both female and male factors were recognized as the cause of infertility. Unexplained infertility was present in 11 cases (33.3%). No adverse maternal or fetal effect was detected during pregnancy.

Conclusion: ART was not associated with higher maternal adverse effects compared to natural pregnancy.

Keywords: Intra-cytoplasmic sperm injection (ICSI), Pregnancy outcome, Assisted reproductive technology (ART), In vitro fertilization (IVF)

P224: The effect of exenatide, a glucagon like peptide, on body weight, fasting blood glucose, lipid profile and hba1c in rats with polycystic ovarian syndrome

Asma Vatankhah [1] , Mahin Izadi [2] , Mohammad Ebrahim Rezvani [3] , Mansour Esmailidehaj [4]

1- Department of Physiology, School of Medical Sciences, Shahid Sadoughi University of Medical Sciences, Yazd, Iran
2- Department of physiology, School of medical sciences, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.
3- Department of physiology, School of medical sciences, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.
4- Department of physiology, School of medical sciences, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.

Corresponding Author: *Mahin Izadi, Department of Physiology, School of Medical Sciences, Shahid Sadoughi University of Medical Sciences, Yazd, Email: Iran.izadi.m_56@yahoo.com*

Background: The polycystic ovarian syndrome (PCOS) is the most common endocrine disorder with a prevalence of 5–8% in women of reproductive age. It is supposed that the metabolic syndrome and PCOS occurred concurrently. We designed this study to evaluate the effect of exenatide, as a synthetic glucagon like peptide, on biochemical indices of PCO rats.

Methods: Twenty eight normal cyclicity female wistar rats weighing 175-200 g were used in this study. PCOS was induced through the injection of 4 mg estradiol valerate. PCO rats were treated by different doses of exenatide (25, 50 mg/kg).

Result: Our findings indicated that exenatide treated rat have a reduced weight gain and insulin resistance in in comparison to control rats (p

Conclusion: Exenatide, a glucagon like peptide, had the useful effects on biochemical indices of metabolic syndrome in PCO rats. As previously reported, we conclude that exenatide can improve metabolic indices in PCO rats.

Keywords: Exenatide, Metabolic syndrome, Polycystic ovarian syndrome

P225: Factors affecting pregnancy outcome of intrauterine insemination cycles in couples diagnosed with secondary infertility and male factor infertility

Maryam Jenabi [1] , Ali Asghar GHafarizadeh [2] , Sahar Jadidoleslam [3]

1- Arak Fertility and Infertility Center, ACECR, Arak, Iran
2- Arak fertility & infertility center. ACECR. Arak. Iran
3- Department of Genetic.Damghan Branch.Islamic Azad University.Damghan.Iran

Corresponding Author: *Maryam Jenabi, Email: maryam569@yahoo.com*

Background: Intrauterine insemination (IUI) is a frequent first-line treatment for infertility caused by many different factors .This study was performed to evaluate some main parameters that may be predictive of successful pregnancy in couples with primary or

secondary infertility and male factor infertility undergoing intrauterine insemination cycle.

Methods: This retrospective study was performed on 200 IUI cycle referring to Arak infertility center.The couples underwent IUI with controlled ovarian hyper-stimulation .Therefore, following the initial semen analysis, based on WHO 2010, samples were processed by Density Gradient Centrifugation method, and other parameters of couples that had an important effect on IUI outcome were studied.

Result: Our result indicated that total pregnancy rate was 26.6% . It was found that the women less than 35-years-old had primary infertility (64.1 % VS 35.9%) but secondary infertility was increased in women greater than 35-years-old (61.5% VS 38.5%). No significance difference in pregnancy rate, duration of infertility was observed between two groups (p35 years) sperm progressive motility was more important than other factors (p= 0.430), but in couples with secondary infertility, the time past from previous pregnancy was significant (p=0.33).

Conclusion: The result revealed that IUI is a beneficial and simple way for treatment of couples with primary and/or secondary infertility .Also, it has been documented that the clinical management of infertile couple should be performed.

Keywords: Secondary infertility, IUI, Male factor infertility, Pregnancy, Intrauterine insemination

P226: Endometriosis and infertility

Mahboubeh Ghorbani [1]

1-

Corresponding Author: *Mahboubeh Ghorbani, Email: ghorbani.mahboobeh@gmail.com*

Background: Endometriosis, is the process of implanting glands and also endometrial tissue out of uterine cavity. The disease is associated with hormonal imbalance and largely affects women in childbearing age. A treatment of endometriosis-related infertility is agonist. The aim of this reviewing article was the treatment of infertility caused by endometriosis agonist GNRH before experimenting “IVF”.

Methods: After searching on some authoritative websites including PUBMED MEDLINE CINAHL AMED more than fourteen articles were found and amongst all of them, ten articles which were more related, were chosen so the results are based on these articles.

Result: In most studies, women who were under treatment with GNRH for 3-6 months before IVF, experienced an increase in the rate of live births compared with untreated agonist before this process.

Conclusion: Given that endometriosis is associated with infertility agonist GNRH, it can be a practical method of fertilizing which might be more effective than assisted reproductive techniques which are now known to be used.

Keywords: Infertility, Endometriosis

P227: Comparison of the effects of letrozole and cabergoline on the endometriotic implants in a rat model

Sheyda Jouhari [1] , Mohammad mehdi Naderi [2] , Afsane Mohamadzade [3] , Mohammad mehdi Akhondi [4] , Hale Soltanghoraee [5] , Zohre Mohammadi [6] , Shahin Khazali [7] , Ebrahim Mirzadegan [8] , Shohreh Nikoo [9] , Shohreh Nikoo [10] , Farnaz Fatemi [11] , Simin Zafardoost [12]

1- Reproductive Biotechnology Research Center,Avicenna Research Institute,ACECR,Tehran,Iran
2- Reproductive biotechnology research center,Avicenna research institute,ACECR,Tehran,Iran
3- Reproductive biotechnology research center,Avicenna research institute,ACECR,Tehran,Iran
4- Reproductive biotechnology research center,Avicenna research institute,ACECR,Tehran,Iran
5- Reproductive biotechnology research center,Avicenna research institute,ACECR,Tehran,Iran
6- Nanobiotechnology Research Center, Avicenna Research Institute, ACECR, Tehran,Iran
7- MD MRCOG MSc
8- Reproductive biotechnology research center,Avicenna research institute,ACECR,Tehran,Iran
9- Reproductive biotechnology research center,Avicenna research institute,ACECR,Tehran,Iran
10- Reproductive biotechnology research center,Avicenna research institute,ACECR,Tehran,Iran
11- Reproductive biotechnology research center,Avicenna research institute,ACECR,Tehran,Iran
12- Reproductive biotechnology research center,Avicenna research institute,ACECR,Tehran,Iran

Corresponding Author: *Sheyda Jouhari, Reproductive Biotechnology Research Center,Avicenna Research Institute,ACECR,Tehran,Iran, Email: s.jouhari@avicenna.ac.ir*

Background: Endometriosis, characterized by the presence of endometrial-like tissue outside the uterus, affects 10% of women of reproductive age. The exact pathophysiology of endometriosis is still uncertain, although several optional etiological theories have been suggested. It causes major obstacle to pursue a definitive treatment for the disease. We aimed to compare the effects of cabergoline (dopamine agonist) and letrozole (aromatase inhibitor) in an experimental endometriosis model.

Methods: A prospective experimental study was carried out in a Surgical Research Center. Thirty-two non-pregnant female rats as experimental model of endometriosis were surgically induced and were randomly divided into three groups. Group 1 received 0.5 mg/kg cabergoline s.c, group 2 was given 0.18 mg/kg letrozole s.c. and group 3 had no medication. The rats were medicated for 21 days. After three weeks of medication, rats were sacrificed and size and histopathology of the endometriotic implants were evaluated. Plasma and peritoneal fluid levels of vascular endothelial growth factor (VEGF) were analyzed in group 1 and 3.

Result: The endometriotic implant volumes and histopathological grade were significantly reduced ($p< 0.001$) in group 1 and 2 compared to group 3. Plasma and peritoneal fluid level of VEGF had no significant changes in group 3.

Conclusion: According to decreased size of implants and reduced histopathological grade of them in the therapeutic groups, cabergoline appears to be a potential novel therapeutic agent in treatment of endometriosis.

Keywords: Cabergoline, Endometriosis, VEGF

P228: A review of the effects of toxoplasmosis on infertility, fetal anomalies and miscarriage during pregnancy

Parastoo Yektay Sanati [1] , Parisa Yektay sanati [2] , Shahab Ramezanpour eshkevari [3]

1- Department of Medical Laboratory Science, Islamic Azad University of Babol, Mazandaran, Iran
2- Department ofmedical laboratory science, Islamic azad university of babol, Mazandaran- Iran.
3- Department of pathology, faculty of veterinary medicine, University of Tehran, Tehran-Iran.

Corresponding Author: *Parastou Yektay Sanati, Email: P.yekta.oloom@gmail.com*

Background: Toxoplasma gondii is an obligate intracellular protozoan that can infect all mammals, who serve as intermediate hosts. Toxoplasma can be transmitted to humans by three major routes; ingestion of raw or inadequately cooked infected meat, ingestion of oocysts and newly infected pregnant woman passing the infection to the unborn fetus.

Methods: In immunocompetent subjects, 90% of T. gondii infections are asymptomatic. Symptomatic infections usually cause a mononucleosis with low-grade fever, malaise, headache, and cervical lymphadenopathy. Primary infection in pregnant women which is transmitted transplacentally, can cause congenital toxoplasmosis. The woman may not have symptoms, but there can be severe consequences for the unborn child. Congenital toxoplasmosis can lead to a wide array of manifestations, ranging from mild chorioretinitis which can be present many years after birth, to miscarriage, mental retardation, microcephaly, hydrocephalus, and seizures.

Result: Previously infected women only rarely are reinfected once they have had an adequate immune response. And women who have been infected at least 6-9 months before conception develop immunity to toxoplasmosis and do not pass it on to their fetus.

Conclusion: Since most of the acute toxoplasmosis infections are asymptomatic, primary prevention is the best way to lower the risk of congenital infection. This study reviewed studies of various risk factors for toxoplasmosis infection during pregnancy to counsel pregnant women appropriately on risk factor reduction.

Keywords: Fetal anomalies, Infertility, Miscarriage, Pregnancy, Toxoplasmosis

P229: The effect of endometriosis on fertility, uterine changes and disruptions in ovulation

Aynaz Ziayee rad [1] , Amirhossein Moshrefi [2] , Ali Motamedi motlagh [3] , Parasto Yekta sanati [4]

1- Islamic Azad University of Babol, Babol, Iran
2- Doctor of Veterinary Medicine, Young researcher club and elite,

University of veterinary Medicine, Islamic Azad University of Babol, Babol, Iran
3- Assistant Professor of Physiological Department, University of veterinary Medicine, Islamic Azad University of Babol, Babol, Iran
4- Student of Medical Laboratory Sciences, Islamic Azad University of Babol, Babol, Iran

Corresponding Author: *Aynaz Ziayee rad, Islamic Azad University of Babol, Babol, Iran, Email: aynaz_as93@yahoo.com*

Background: Endometriosis is one of the most common diseases of the reproductive system, a condition where tissue that behaves like the lining of the womb is found outside the uterus, causes severe and debilitating period pain.

Methods: In this review article, we tried to find previously published original studies about endometriosis and its effect on fertility, uterine changes and disruptions in ovulating until 2016.

Result: Endometriosis is especially common among women in their 30s and 40s. About 5 to 10 percent of women of reproductive age are involved in it, because of its association with hormone disorders. It happens when the displaced endometrial cells then stick to the pelvic walls and the surfaces of the pelvic organs, such as bladder, ovaries, and rectum.In patients with endometriosis, the pregnancy rate has been lower than the normal range, which can be caused by endometrial abnormalities, so that embryo implantation in the uterine cavity is reduced. In general, it is assumed that women with endometriosis are faced with lots of problems to get pregnant, because the studies show that the women with endometriosis levels need more time than normal women to get pregnant or have lower possibility of fertility.

Conclusion: According to statistics, about 25 to 50% of infertile women have endometriosis, and 30 to 50% of women with endometriosis are infertile.

Keywords: Implantation, Infertility, Pregnancy, Uterine changes, Endometriosis, Ovarian function

P230: Evaluation of luteal phase defect in infertility assessment

Nahid Neamati [1]

1- Babol University of Medical Sciences ,Babol, Iran

Corresponding Author: *Nahid Neamati Babol University of Medical Sciences ,Babol, Iran nahidneamati60@gmail.com*

Background: Luteal phase defect (LPD) is the most common disturbance in menstrual cycle. However, because of inconsistent data and lak of consensus in diagnosis and therapeutic strategies, its importance is ambiguous .

Methods: We reviewed texts and published articles since 1991 till 2016 about luteal phase defect and its diagnosis to determine the best practical protocol for assessment of luteal phase defect.

Result: Based on the articles, we understand that infertility due to luteal phase defect is detectable by assessment of two serum progesterone levels, timed basal body temperature and timed endometrial biopsy (TEB).

Conclusion: We understood that two (or more) serum progesterone level assessment in separate menstrual cycles is more useful than once evaluation of its level.

Keywords: Infertility , Progesterone , TEB , Timed endometrial biopsy, Luteal phase defect

P231: Effects of N-acetyltransferase 1(NAT1), N-acetyltransferase 2(NAT2), glutathione S-transferase mu 1 (GSTM1), N-Acetyltransferases and methylated arsenic on the risk of ovarian cancer

Sayed Alireza Mirsane [1] , Shima Shafagh [2] , Sayed Mojtaba Mirsane [3]

1- School of Nursing and Midwifery,Kashan University of Medical Sciences, Tehran, Iran
2- General Surgery Specialist, Medical School, Kashan University of Medical Science,Kashan,I.R.IRAN
3- Khansar education office Teacher,Esfahan

Corresponding Author: *Seyed Alireza Mirsane, School of Nursing and Midwifery,Kashan University of Medical Sciences, Tehran, Iran, Email: alireza.seyed70@gmail.com*

Background: Ovarian cancer refers to several types of cancer arising from the epithelial lining (i.e., the urothelium) of the urinary ovarian. Rarely, the ovary is involved by non-epithelial cancers, such as lymphoma or sarcoma, but these are not ordinarily included in the colloquial term of "Ovarian cancer." It is a disease in which abnormal cells multiply without control in the ovary. Our aim was to evaluate the effects of N-acetyltransferase 1(NAT1), N-acetyltransferase 2(NAT2), glutathione S-transferase mu 1 (GSTM1),

N-Acetyltransferases and methylated arsenic on the risk of ovarian cancer.

Methods: We did a systematic review of 36 studies identified by searching PubMed, Ovide ,Elsevier and ProQuest. Studies were about the effects of N-acetyltransferase 1(NAT1), N-acetyltransferase 2(NAT2), glutathione S-transferase mu 1 (GSTM1) and methylated arsenic on the risk of ovarian cancer.

Result: Studies showed the ability of methylated arsenic that plays an important role in reducing the risk of ovarian cancer attributable to the continuation of arsenic exposure from drinking water. Also, N-Acetyltransferases are involved in the metabolism of carcinogenic arylamines and thus could be an important factor in susceptibility to these agents likewise. The NAT1 and GSTM1 genotypes were not associated with increased risk of ovarian cancer among smokers . Studies suggested referred to analyses of genetic combinations of NAT1/NAT2 as potential risk factors for ovarian cancer.

Conclusion: Methylated arsenic can reduce risk of ovarian cancer. Also N-Acetyltransferases and combinations of NAT1/NAT2 as potential risk factors for ovarian cancer seem to have the same effect but NAT1 and GSTM1 genotypes were not associated with increased risk of ovarian cancer.

Keywords: Glutathione S-transferase mu 1, N-acetyltransferase 2, N-acetyltransferase1, N-Acetyltransferases, Ovarian cancer

P232: Effects of extremely low frequency electromagnetic field exposure on female reproduction system and pregnancy outcome

Elham Mansouri [1] , Arash Khaki [2]

1- Department of Medical Physics, Faculty of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran.
2- Women's Reproductive Health Research Center, Tabriz University of Medical Sciences, Tabriz, Iran.

Corresponding Author: *Department of Medical Physics, Faculty of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran, email: emansouri2012@gmail.com*

Background: This article presents a systematic review of published scientific studies on the potential effects of extremely low frequency electromagnetic field (ELF-EMF) in range of 30 T0 60 Hz (from domestic and occupational sources and electric transmission lines) on female reproduction system and pregnancy outcome.

Methods: A significant number of studies have already been published which assessed adverse effects of ELF-EMF on female reproduction system both in human and animals. In this review, publications in English were searched in ISI Web of Knowledge, PubMed databases and Scholar Google from January 2000 to December 2015 articles.For ascertaining the reliability of study, data were extracted independently and in duplicate by two investigators.

Result: In vivo and in vitro studies on human and animals show that ELF-EMF radiations alter the uterus and the ovaries, follicular development, estrus cycle and sex hormones and can cause congenital abnormalities, miscarriage and birth defect.

Conclusion: On the basis of this review,environmental exposure to ELF-EMF can affect female reproduction system and has adverse effects on fetus and pregnancy outcome.

Keywords: Female reproductive system, Miscarriage, Ovary, Pregnancy outcome, Uterus, Extremely low frequency magnetic field

P233: Correlation of G22A adenosine deaminase (ADA) gene polymorphism with serum ADA activity in woman with polycystic ovary syndrome

Mahshid Salehabadi [1] , Iraj Khodadadi [2] , Marzieh Farimani [3] , Neda Ghsemkhani [4]

1- Department of Biochemistry, Faculty of Medicine, Hamadan University of Medical Sciences, Hamadan, Iran
2- Department of Biochemistry, Faculty of Medicine, Hamadan University of Medical Sciences, Hamadan-Iran.
3- Fertility Research Centre, Fatemieh Hospital, Hamadan-Iran.
4- Department of Biochemistry, Faculty of Medicine, Hamadan University of Medical Sciences, Hamadan-Iran.

Corresponding Author: *Mahshid Salehabadi, Department of Biochemistry, Faculty of Medicine, Hamadan University of Medical Sciences, Hamadan, Iran, Email: mahshidsalehabady@yahoo.com*

Background: Polycystic ovary syndrome (PCOS) is a common endocrine disorder in women of reproductive age. Follicular fluid adenosine plays crucial role in

oocyte survival. In this regard, a critical correlation has been found between maintenance of normal pregnancy and ADA activity. The importance of ADA1 polymorphisms in polycystic ovary syndrome (PCOS) has not been studied before. The aim of this study investigate possible association between the occurrence of PCOS with altered ADA activity and genetic distribution of G22A Polymorphisms of ADA1 gene.

Methods: 200 women with PCOS and 200 healthy female enrolled in our study. DNA extracted and prevalence of G22A genotypes were determined using PCR RFLP technique and activity of ADA was measured by Giusti colorimetric method. Statistical analyses were carried out using the SPSS version 16.

Result: Prevalence of GG, AA, and GA genotypes did not deffer significantly. Women with PCOS showed remarkably reduced ADA activity compared to healthy women. Additionally, PCOS women carrying GG genotype showed significantly higher ADA1 activity than GA genotype .

Conclusion: For the first time, we showed that there was no significant different distribution of G22A genotypes between healthy women and PCOS patients. None of G22A genotypes showed a protection role or acted as a risk factor for PCOS. Moreover, GA genotype showed lower ADA activity than GG genotype. Therefore, it can be concluded that G22A polymorphism may play an important role in the development and progression of PCOS by altering ADA activity.

Keywords: Alleles, Genotypes, Polycystic ovary syndrome, Single nucleotide polymorphism, Adenosine deaminase

P234: Effect of granulocyte colony stimulating factor (G-CSF) on IVF outcomes in normal infertile women

Robabe Hosseinisadat [1]

1- School of Medicine, Kerman University of Medical Sciences, Kerman, Iran

Corresponding Author: *Robabe Hosseinisadat, Department of Obstetrics and Gynecology, School of Medicine, Kerman University of Medical Sciences, Kerman, Iran, Email: robabehosseinisadat@yahoo.com*

Background: Despite major advances in assisted reproductive techniques (ART), the implantation rates remain relatively low. One of the options in studies about implantation is intrauterine infusion of Granulocyte Colony Stimulating Factor (G-CSF).

Methods: This study was a randomized controlled clinical trial regisrered by IRCT (IRCT201508236420N13). 113 infertile women with normal endometrial thickness who were candidates for IVF participated in two groups. Our exclusion criteria were history of Repeated Implantation Failure (RIF), endocrine disorders, severe endometriosis, congenital or acquired uterine anomaly and contraindication for G-CSF (renal disease, sickle cell disease, or malignancy). In case group (n=55), 300µg trans cervical intrauterine G-CSF was administered on oocyte retrieval day. Controls (n=58) were treated with standard protocol. Main outcomes included finding the chemical, clinical and ongoing pregnancy rates, implantation rates, and miscarriage rates were measured in two groups.

Result: There were not statistical differences in chemical, clinical and ongoing pregnancy, implantation rate, and miscarriage rate between the two groups.

Conclusion: In normal IVF patients, G-CSF does not affect chemical and clinical pregnancy rates, implantation rates and miscarriage rates.

Keywords: Granulocyte colony-stimulating factor, In vitro fertilization, Pregnancy rates, Randomized controlled trial, G-CSF

P235: Functional cyst on reproductive age women referring to Imam Reza, Omolbanin and Ghaem hospitals in Mashhad city, 2015

Elham Fazeli [1] , Mahin Tafazoli [2] , Mohsen Nemati [3] , Mohammad taghi Shakeri [4]

1- School of Medicine, Shahid Beheshty University of Medical Sciences, Tehran, Iran
2- Assistant Professor of Midwifery, School of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran
3- Assistant Professor, Department of Nutrition, School of Medical, University of Medical Sciences, Mashhad, Iran
4- Professor, Department of Statistics, School of Public Health, University of Medical Sciences, Mashhad, Iran.

Corresponding Author: *Mahin Tafazoli, School of Nursing and Midwifery, Mashhad, Iran, Email: tafazolim@mums.ac.ir*

Background: Functional ovarian cysts are common in reproductive age female. According to high prevalence of functional ovarian cysts and costs for community-based diagnosis and treatment, this study aimed to evaluate the relationship between fertility history and lifestyle factors with functional ovarian cysts.

Methods: This cross-sectional study was done on 280 women of reproductive age. Inclusion criteria were Iranian aged 13-49 years and exclusion criteria were pregnancy, history of infertility, menopausal women and women with acute gynecologic, hormonal and neoplastic situations. Collecting information was used with the questionnaire including demographic information and medical and fertility history. Data analysis was performed using statistical software SPSS (version 16).

Result: The results showed that tobacco and alcohol consumption and body mass index were associated with functional ovarian cysts (p

Conclusion: The results of this study showed the relationship between life style with ovarian cysts. According to this result, education and lifestyle modification of these patients prevented functional ovarian cyst formation.

Keywords: Iran, Obesity, Parity, Smoking, Ovarian cysts

P236: Lipid peroxidation and antioxidant enzymes activity in seminal plasma of men with unexplained infertility

Ali Hasanpour [1] , Mehran Dorostghoal [2] , Hamid Galehdari [3] , Masoud Hamadi [4]

1- M.Sc. of Embryology, Department of Biology, Faculty of Science, Shahid Chamran University of Ahvaz, Ahvaz, Iran.
2- Associate Professor of Embryology, Department of Biology, Faculty of Science, Shahid Chamran University of Ahvaz, Ahvaz, Iran.
3- Professor of Genetic, Department of Genetic, Faculty of Science, Shahid Chamran University of Ahvaz, Ahvaz, Iran.
4- Associate Professor of Embryology, Department of Anatomy, Faculty of Anatomy, Ahvaz, Jundishapur University of Medical Sciences, Ahvaz, Iran.

Corresponding Author: *Ali Hasanpour, Department of Biology, Faculty of Science, Shahid Chamran University of Ahvaz, Ahvaz, Iran, Email: hassanpour.biology@gmail.com*

Background: Several evidences suggest that imbalance between reactive oxygen species production and antioxidant capacity in seminal plasma leads to oxidative stress resulting in male infertility. Present study was done to identify clinical significance of seminal oxidative stress in male partner of couples with unexplained infertility.

Methods: The institutional review board of Biology Department, Shahid Chamran University of Ahvaz approved the present study. Seminal levels of malondialdehyde (MDA), superoxide dismutase (SOD) and glutathione peroxidase (GPx) were assessed in normozoospermic fertile (n=30) and infertile (n=20) men.

Result: MDA levels in infertile men were significantly (p

Conclusion: Our findings indicate that oxidative stress is a major factor in etiology of unexplained male infertility and evaluation of seminal oxidative status can be helpful in men attending infertility clinics during fertility assessment.

Keywords: Antioxidant status, Lipid peroxidation, Oxidative stress, Semen quality, Unexplained male infertility

P237: Sperm membrane and acrosomal integrity in male partner of couples with unexplained infertility

Sara Khodadadi [1] , Mehran Dorostghoal [2] , Hamid Galehdari [3] , Masoud Hamadi [4]

1- Department of Biology, Faculty of Science, Shahid Chamran University of Ahvaz, Ahvaz, Iran
2- Associate Professor of Embryology, Department of Biology, Faculty of Science, Shahid Chamran University of Ahvaz, Ahvaz, Iran.
3- Professor of Genetic, Department of Genetic, Faculty of Science, Shahid Chamran University of Ahvaz, Ahvaz, Iran.
4- Associate Professor of Embryology, Department of Anatomy, Faculty of Anatomy, Ahvaz, Jundishapur University of Medical Sciences, Ahvaz, Iran.

Corresponding Author: *Sara Khodadadi, Department of Biology, Faculty of Science, Shahid Chamran University of Ahvaz, Ahvaz, Iran, Email: khodadadi.biology7@gmail.com*

Background: Sperm functional impairments are the most significant causes of fertilization failure and have been considered as important factors in estimation of

male infertility. Present study was done to evaluate integrity of sperm membrane and acrosome in normozoospermic infertile men.

Methods: Present study was approved by the institutional review board of Biology Department, Shahid Chamran University of Ahvaz. Standard sperm parameters were analyzed according to the World Health Organization (WHO) guidelines. Hypo-osmotic swelling (HOS) test was done to evaluate sperm membrane integrity and sperm acrosomal integrity was assessed by FITC-PSA labelling probe in normozoospermic fertile (n=30) and infertile (n=20) men.

Result: No significant differences were observed in sperm membrane integrity between fertile and infertile men. Sperm with reacted acrosomes were higher (p

Conclusion: Our results demonstrated the clinical significance of sperm acrosomal integrity and showed that patients with normal semen analyses may have sperm that do not function in a manner necessary for fertility. Identification and treatment of these conditions may improve the male fertility and allow for conception.

Keywords: Acrosomal integrity, Membrane integrity, Normozoospermic men, Semen quality, Unexplained male infertility

P238: Relationship between sperm DNA damage and semen quality in normozoospermic fertile and infertile men

Saba Abdi [1]

1- Mehran Dorostghoal 2, Hamid Galehdari 3 and Masoud Hamadi 4*

Corresponding Author: *Mehran Doroastgoal, Department of Biology, Faculty of Science, Shahid Chamran University of Ahvaz, Ahvaz, Iran Email: mdorostghoal@yahoo.com*

Background: DNA fragmentation in spermatozoa as a potential risk factor for the development of normal human embryos is associated with poor fertilization, impaired embryonic development, pregnancy loss, birth defects and childhood cancer. The present study evaluated the relationship between sperm DNA damage and sperm parameters in normozoospermic fertile and infertile men.

Methods: This study was approved by the institutional review board of Biology Department, Shahid Chamran University of Ahvaz. Semen samples were collected from fertile (n=30) and infertile men (n=20) with normal sperm parameters according to the World Health Organization (WHO) guidelines. Sperm DNA fragmentation was analyzed using single cell gel electrophoresis (comet) assay.

Result: Significantly (p

Conclusion: The results show that sperm DNA integrity has important clinical significance and should be considered as a complementary diagnostic tool in evaluation of male infertility.

Keywords: Comet assay, DNA damage, Normozoospermic men, Semen quality, Unexplained male infertility

P239: Varicocele results in severe oxidative stress at semen level

Hassan Hassani Bafrani [1] , Mazdak Razi [2]

1- Gametogenesis Research Center, Kashan University of Medical Sciences, Kashan, Iran.
2- Department of comparative Histology and Embryology, Faculty of veterinary medicine, urmia University, Urmia, Iran

Corresponding Author: *Hassan Hassani Baferani, Kashan Gametogenesis Research Center, Kashan University of Medical Sciences, Kashan, Iran, Email: hhasanib@gmail.com*

Background: Varicocele results in considerable oxidative stress at spermatogenesis level, which may affect semen antioxidant potential in varicocele. Thus, the present study was done in order to evaluate the redox system in semen as well as semen antioxidant potential.

Methods: A total of 20 semen samples were obtained from male partners of couples for analysis in Kashan Fertility and Infertility center, and then were assigned into two groups as varicocele (grade III, NO: 10 patients) and control group (cases with no fertility problems, NO: 10 cases). The sperm samples were obtained from each group by masturbation into sterile plastic jars and analyzed for sperm parameters as motility, viability and DNA integrity. Then the semen glutathione peroxidase (GSH-px), superoxide dismutase (SOD), total antioxidant capacity (TAC) and malondialdehyde (MDA) content were assessed.

Result: Biochemical analyses showed that the semen GSH-px and SOD levels significantly (P

Conclusion: In conclusion, our data showed that, varicocele results in severe oxidative stress at both testicular and semen level. Accordingly, it results in a remarkable reduction in antioxidant status of semen partially by reducing redox system potential.

Keywords: Glutathione Peroxidase, Malondialdehyde, Semen, Superoxide Dismutase, Total Antioxidant Capacity, Varicocele

P240: Association between FAS and FASL genes polymorphism with idiopathic males infertility

Rezvan Asgari [1] , Mitra Bakhtiari [2] , Ali Bidmeshkipour [3] , Kamran Mansouri [4] , Kheirollah Yari [5] , Farhad Shahvaisizadeh [6]

1- Department of biology, Faculty of sciences, Razi University, Kermanshah, Iran
2- Department of Anatomy & Biology, kermanshah University of Medical Sciences Kermanshah, Iran
3- Departmentof Biology, Razi University , Kermanshah, Iran
4- Kermanshah University of Medical sciences, Iran
5- Kermanshah University of Medical Sciences, Medical Biology Research Center, Kermanshah, Iran
6- Department of Medical Genetics, Medical School, Shahid Beheshti University of Medical Sciences, Iran

Corresponding Author: *Department of Biology, Faculty of Sciences, Razi University, Kermanshah, Iran, email: R.asgari33@gmail.com*

Background: Apoptosis is an important regulatory process in normal spermatogenesis and a main factor associated with male infertility. FAS/FASL interaction is a major pathway in positive up regulation of apoptosis in cells and different tissues such as testis. This study aimed to investigate the association between polymorphisms including FAS-670A/G and FASL-844C/T, with male idiopathic infertility.

Methods: In this case-control study, 102 idiopathic infertile men and 110 healthy men were enrolled as control group. DNA was extracted from 3ml peripheral blood of all participants. For identifying above polymorphisms, PCR-RFLP technique was carried out.

Result: Results of the genotypic frequencies between the patients and healthy groups for FAS-670A/G polymorphism showed 16.67%AA, 56.86%AG, 26.47%GG and 9.09%AA, 61.81%AG, 29.09%GG respectively and there was no statistically significant difference between experimented groups (P=0.255). However, in FASL-844C/T polymorphism, genotypic frequencies were 4.90%CC, 70.59%CT, 24.51%TT and 8.18%CC, 81.82%CT, 10%TT respectively and the difference was statistically significant compared to control group (P=0.016).

Conclusion: Our study showed that there is no association between polymorphism of FAS-670A/G and male infertility. However, polymorphism of FASL-844C/T is related to risk of male infertility. These findings confirm that genetic variations incidence in FAS-FASL system can interfere with spermatogenesis and can be effective in male infertility etiology. However, a larger population and various ethnic groups are needed to achieve certain results.

Keywords: FAS, FASL, Polymorphism, Spermatogenesis, Apoptosis

P241: Association of malondialdehyde and total antioxidant capacity levels in blood and seminal plasma with teratospermic male infertility

Azadeh Mohammad-Hasani [1] , Younes Aftabi [2] , Seyed Gholam Ali Jorsaraei [3] , Majid Tafrihi [4] , Abasalt Hosseinzadeh Colagar [5]

1- Department of Molecular and Cell Biology, Faculty of Basic Sciences, University of Mazandaran, Babolsar, CP: 47416-95447, Iran
2- Department of Molecular and Cell Biology, Faculty of Basic Sciences, University of Mazandaran, Babolsar, CP: 47416-95447, Iran.
3- Department of Anatomy and Embryology, Fateme Zahra infertility and health reproductive research center, Babol University of Medical Sciences, Babol, Iran.
4- Department of Molecular and Cell Biology, Faculty of Basic Sciences, University of Mazandaran, Babolsar, CP: 47416-95447, Iran.
5- Department of Molecular and Cell Biology, Faculty of Basic Sciences, University of Mazandaran, Babolsar, CP: 47416-95447, Iran.

Corresponding Author: *Abasalt Hosseinzadeh kolagar, Department of Molecular and Cell Biology, Faculty of Basic Sciences, University of Mazandaran, Babolsar, Iran, E-mail: ahcolagar@umz.ac.ir*

Background: The sperm dysfunction is one of the major causes of men infertility caused by reactive oxygen species (ROSs). These ROSs led to lipid

peroxidation (LPO) and the establishment of firm peroxidation products like malondialdehyde (MDA) in seminal and blood plasma. The purpose of this study is association two biomarkers of oxidative stress; total antioxidant capacity (TAC) and MDA with quality-quantity factors in teratospermic men.

Methods: Sixty blood and seminal samples including 30 normal samples, as a control groups and 30 teratospermic men samples, as a case groups, were collected from the Fatemezahra IVF centre (Babol, Iran). Semen was analyzed on the basis of World Health Organization, WHO (1999). Seminal and blood plasma TAC and MDA levels in all samples were measured by TBARs and FRAP methods, respectively.

Result: Our results showed that TAC level in seminal and blood plasma of normospermic men was significantly higher than teratospermic men and had positive correlation with sperm count, motility and morphology. In contrast seminal and blood plasma MDA levels in normospermic men were significantly lower than in teratospermic men and had negative correlation with sperm count, motility and morphology.

Conclusion: Thus, it seems that strengthening the antioxidant capacity of idiopathic infertile male may prevent the development of teratospermic malfunction.

Keywords: Lipid peroxidation, Reactive oxygen species, Total antioxidant capacity, Male infertility

P242: Association of TNF-alpha -308 single nucleotide polymorphism with spermatogenic failure in Iranian oligospermic males

Maryam Khademi Bami [1] , Masoud Dehghan Tezerjani [2] , Mohammad hasan Sheikhha [3] , Seyed Mehdi Kalantar [4]

1- Department of Biology, Islamic Azad University, Ashkezar Branch, Yazd, Iran
2- Genetic Unit, Research & Clinical Center for Infertility ShahidSadoughi Medical Sciences University, Yazd, Iran
3- Genetic Unit, Research & Clinical Center for Infertility ShahidSadoughi Medical Sciences University, Yazd, Iran
4- Genetic Unit, Research & Clinical Center for Infertility ShahidSadoughi Medical Sciences University, Yazd, Iran

Corresponding Author: *Genetic Unit, Research and Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran, email: khademi6586@gmail.com*

Background: Epidemiological studies indicate that male infertility can be the result of acute or chronic inflammation of testis tissue in which cytokines have an important role. The overexpression of TNF-alpha as a cytokine can lead to the changing of phenotype and structure of leydig cell,and as a result can affect spermatogenesis. Hence, in this study, we investigated the association of TNF alpha -308 Single Nucleotide Polymorphism with a low sperm count. Based on previous studies, A allele of this polymorphism can increase expression of TNF-alpha.

Methods: This case-control study consisted of 26 oligospermic men who referred to Yazd Research and Clinical Center for infertility and 100 healthy controls. We did sperm analysis, and then DNA was extracted and Restriction Fragment Length Polymorphic-Polymerase Chain Reaction (RFLP-PCR) was performed for the aforementioned SNP.

Result: The frequencies of A allele and G allele were 44.2% and 55.8% in oligospermic group, and 24% and 76% among controls, respectively. Among oligospermic, 26.9% presented AA homozygous genotype, 34.6% AG heterozygous genotype, and 38.5% GG homozygous genotype. In the control group, 13% presented AA homozygous genotype, 22% AG heterozygous genotype, and 65% GG homozygous genotype. According to our findings, A allele (p=0.005, OR=2.51) and AA genotype (p=0.04, OR=2.97) have a positive association with alow count of sperm.

Conclusion: Our finding showed that the polymorphism may be associated with low sperm count in Iranian oligospermic males.

Keywords: Cytokine, Oligospermia, RFLP-PCR, Spermatogenesis, TNF alpha

P243: PiRNA genes variants as a risk factor in male infertility

Zeeba Kamaliyan [1] , Reza Mirfakhraie [2] , Sara Pouriamanesh [3]

1- Shahid Beheshti University of Medical Sciences, Tehran, Iran
2- Shahid Beheshti University of Medical Sciences, Tehran, Iran.
3- Shahid Beheshti University of Medical Sciences, Tehran, Iran.

Corresponding Author: *Z. Kamaliyan, Shahid Beheshti University of Medical Sciences, Tehran, Iran, email: zeebakamaliyan@yahoo.com*

Background: Azoospermia, the most common reason for male infertility, is caused by spermatogenetic failure. Recently, the role of piRNA pathway in transposon silencing has been approved in spermatogenesis. The purpose of the present study was to evaluate the mutation analysis of the Tudor domain in TDRD5 gene and also association study of rs508485(T>C) in HIWI2 and rs11703684(C>T) in HIWI3 genes in Iranian men with idiopathic non-obstructive azoospermia.

Methods: Genomic DNA was extracted from blood samples obtained from 108 azoospermia samples and 100 healthy controls. Probable mutations in exons 9 and 10 of TDRD5 gene were screened using multi-temperature single strand conformation polymorphism (MSSCP) technique. Genotyping was performed using Tetra-ARMS-PCR for rs508485(T>C) and rs11703684(C>T) polymorphisms.

Result: Significant difference in distribution of rs508485 genotypes was found in azoospermia cases in comparison to controls, with P-value of 0.035 and odds ratio of 2.00 (95% CI: 1.04-3.86). No mutation was detected in Tudor domain of the TDRD5 gene in the patients.

Conclusion: We provide, for the first time, evidence for association between genetic variation the genes involved in the piRNA pathway and azoospermia in Iranian patients. Therefore, piRNA genes variants can be considered as risk factors for male infertility. Further studies are required to validate the significance of the studied genetic variation in diverse ethnic populations.

Keywords: HIWIs, Male infertility, Single nucleotide polymorphism, TDRD5, piRNA

P244: Clomifen affects on post varicocelectomy spermogram

Amir abbas Asadpour [1] , Alireza Akhavan rezayat [2] , Mohammad Asl zare [3]

1- Mashhad University of Medical Science, Mashhad, Iran
2- Assistant professor of Urology, Mashhad University of Medical Science, Mashhad, Iran.
3- Associated professor of Urology, Mashhad University of Medical Science, Mashhad, Iran.

Corresponding Author: *Alireza Akhavan Rezayat, Email: alirezaakhavan30@yahoo.com*

Background: Varicoselectomy is one of the most surgeries in patients with abnormal spermogram and infertility and is known to improve spermogram parameters. Clomifen is also known as a drug widely used for male infertility. In this retrospective study, we evaluated effects of clomifen on spermogram of two groups of patients after varicocelectomy with and without using clomifen.

Methods: Since april 2012 till july 2014, we evaluated 156 patients (age between 22-33 years old) after varicocelectomy for abnormal spermogram (mostly a low sperm density and slow motility). They were divided in two groups:group A(n=62)(39.74%)who had received daily oral clomifen(25mg)for 21 days each month and had continued for about three months.group B(n=94)(60.25%) had received no drugs.three months after varicocelectomy spermageram of two groups were compared.

Result: During first three months after varicocelectomy in group A, pregnancy has occurred in 23 patients(37.09%)and in group B was 25(26.59%). Mean increase of sperm density and motility in group A was about 35% and 10% and in group B was 23% and 12%, respectively.

Conclusion: This study showed that using 25 mg daily oral clomifen after varicocelectomy is effective on increasing sperm density but had little effect on sperm motility.

Keywords: Spermogram, Varicocelectomy, Clomifen

P245: Prevalence of sperm abnormalities in patients referred to the center of infertility ACECR-Arak during the second 6 months of 2014

Puran Badkoobeh [1] , Ali Akbar Malekirad [2]

1- Biology Department, Farhangian University, Arak, Iran
2- Biology department, Payame noor university,Iran

Corresponding Author: *Badkoobeh, Puran - Biology Department, Farhangian university, Arak, Iran - pbadkoobeh@yahoo.com*

Background: One of the important issues in medicine today is infertility and reduced fertility in 15-10% of couples. In 40% of cases the problem is male fertility and because sperm production disorder is the most

important cause of male infertility, the importance of identifying and correcting this disorder is established to help couples fertility. In this study, abnormal sperm shape as one of the most important factors affecting the ability of sperm to fertilize the egg was evaluated.

Methods: In this cross sectional-descriptive analysis, natural morphology and sperm malformation were the elements which we investigated. Over a span of six months, the semen of 671 patients who referred to the center of infertility ACECR-Arak was meticulously assessed applying Papanicolaou stain method and in compliance with WHO canons.

Result: In this study, 4.03 ± 2.72 percent of sperms were morphologically natural. From among 95.97 ± 2.72 percent of malformed sperms, 5.57 ± 4.50 percent had anomaly in their heads, 4.75 ± 3.912 percent in their torso and 3.10 ± 3.5 percent had anomalies in their tails. 81.09 ± 14.14 percent of sperms were also classified as amorphous.

Conclusion: In this study, the high percentage of sperm morphological abnormalities raises the risk of reduced fertility. However, a closer look at other semen parameters is necessary for a definitive statement in this regard. It should be noted that many factors, including genetics factors, other diseases and pollutants through mechanisms like oxidative stress affect on sperm parameters such as its morphology.

Keywords: Infertility, Oxidative stress, Semen, Sperm, Fertility

P246: Efficiency of polyphenol of Ggrape in the treatment and debarment of testicular cancer

Sayed Alireza Mirsane [1] , Shima Shafagh [2] , Nasrin Oraei [3]

1- School of Nursing and Midwifery,Kashan University of Medical Science, Kashan, Iran
2- General Surgery Specialist, Medical School, Kashan University of Medical Science,Kashan,I.R.IRAN
3- Khansar education office Teacher,Esfahan

Corresponding Author: *Seyed Alireza Mirsane, School of Nursing and Midwifery,Kashan University of Medical Science, Kashan, Iran, Email: alireza.seyed70@gmail.com*

Background: Testis cancer is a malignant tumor that starts in the cells of the testis. Malignant means that it can spread, or metastasize, to other parts of the body also treatment by fruits is a very popular way and very good intervention for cancer treatment or prohibition. Our aim was efficiency checking of efficiency of polyphenol of grape in the treatment and prohibition of testis cancer.

Methods: We did a systematic review of 22 studies identified by searching PubMed, Ovide ,Elsevier and ProQuest. Studies were about the efficiency of polyphenol of grape in the treatment and prohibition of testis cancer.

Result: Studies showed polyphenol of grape can inhibit tumoral cell proliferation and apoptosis through the modulation of cellular transcription factors and signaling proteins in testis cancer and results suggested that grape polyphenol has a lot of anticancer activities, including inhibition in tumoral cell multiplication, tumoral cell cycle, invasion and angiogenesis. Analysis was based on the key role of grape in anti-inflammatory effects and answering the question that why grape is an inhibitor of inflammation and suppressor of tumor creation in testis cancer.

Conclusion: Polyphenol of grape can inhibit tumoral cell proliferation, tumoral cell cycle , invasion of tumoral cells,inflammation and angiogenesis in testis cancer because those have a lot important efficiency in inhibition of tumoral cells activities. Also polyphenol of grape can stop apoptosis through the modulation of cellular transcription factors and signaling proteins in testis cancer.This review of grape suggests a wide range of clinical applications for the treatment and prohibition of testis cancer, as well as other illnesses where inflammation is believed to play an necessary etiologic role.

Keywords: Grape, Testis cancer, Polyphenol

P247: Comparing reactive oxygen species and DNA fragmentation in semen samples of unexplained infertile versus normal couples

Akram Vatannejad [1] , Saeid Amanpour [2] , Sara Zabihzadeh [3] , Elaheh Aboutorabi [4] , Mahnaz Hadadi [5] , Leila Bajelan [6] , Zahra Zandieh [7]

1- Department of Clinical Biochemistry, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran
2- IVF-Laboratory, Vali-e-Asr Reproductive Health Research Center, Tehran University of Medical Sciences
3- IVF-Laboratory, Vali-e-Asr Reproductive Health Research

Center, Tehran University of Medical Sciences
4- IVF-Laboratory, Vali-e-Asr Reproductive Health Research Center, Tehran University of Medical Sciences
5- IVF-Laboratory, Vali-e-Asr Reproductive Health Research Center, Tehran University of Medical Sciences
6- Mehr IVF center, Mehr hospital, Tehran, Iran
7- Department of Anatomy, School of Medicine, Iran University of Medical Sciences, Tehran, Iran

Corresponding Author: *Department of Anatomy, School of Medicine, Iran University of Medical Sciences, Tehran, Iran, email: zandie.dvm@gmail.com*

Background: 15% of couples in reproductive age are affected by infertility, and the incidence, specially male factor infertility(with more than 40% incidence), is growing. So, there is a need for better understanding the male factor infertility. Also, 30% of infertile couples can be affected by unexplained infertility. Some studies revealed that unexplained infertility is not really unexplained in all cases and sometimes is just due to misevaluation. So, In this study sperm parameters, the level of ROS as well as sperm DNA fragmentation were analyzed in unexplained infertile couples compared with normal ones.

Methods: semen samples from two groups of patients were incorporated in this study. 29 samples were from unexplained infertile couples and 33 from control group. Semen analysis immediately after liquefaction was done. SCD or halo sperm test were done for evaluating DNA fragmentation and intracellular sperm peroxide hydrogen (H2O2) and superoxide ($O2^{-\cdot}$) were detect by Dichlorofluorescindiacetate (DCFH-DA) and Hydroethidium (HE).

Result: Basic sperm parameters in both groups had no significant differences. The results showed that the level of DNA fragmentation, sperm peroxide hydrogen(H2O2) and superoxide ($O2^{-\cdot}$) were higher significantly in unexplained couples comparing with normal ones ($P< 0.05$). Also, a measure of the correlation between variables demonstrated that in unexplained couples higher peroxide hydrogen production led to higher DNA fragmentation (p

Conclusion: Interaction of sperm with female reproductive tract (FRT) is so important in biology and pathology of fertility, early embryo development, implantation and pregnancy. Our results showed that the level of ROS and DNA fragmentation are significantly higher in unexplained couples in comparison with normal. So, In this couples, semen analysis was not enough for infertility evaluation and the level of DNA fragmentation as well as the causes of ROS production should be considered too.

Keywords: DNA fragmentation, ROS, Unexplained infertility, Sperm

P248: Study the association of the variable number tandem repeat (VNTR) in intron 2 of IL1RN gene with human male infertility

Tayyebeh Zamani Badi [1] , Mohammad Karimian [2] , Hossein Nikzad [3]

1- Anatomical Sciences Research Center, Kashan University of Medical Sciences, Kashan, Iran
2- Anatomical Sciences Research Center, Kashan University of Medical Sciences, Kashan, Iran
3- Gametogenesis Research Center, Kashan University of Medical Sciences, Kashan, Iran

Corresponding Author: *Tayebeh Zamani, Anatomical Sciences Research Center, Kashan University of Medical Sciences, Kashan, Iran Gametogenesis Research Center, Kashan University of Medical Sciences, Kashan, Iran, Email: t.zamani@yahoo.com*

Background: Presence of a balance between proliferation and apoptosis of cells is necessary for successful spermatogenesis. Any failure in this balance will result in impaired male fertility. The interleukin-1 receptor antagonist gene (IL1RN) is one of the IL-1 family members that moderates inflammatory and immune responses associated with these cytokines. In this study, we investigated the relationship between the variable number tandem repeat (VNTR) in intron 2 of IL1RN gene and male infertility in men referring to Kashan Infertility Center.

Methods: In a case-control study, 2 ml blood was collected from 50 fertile and 50 infertile men who referred to Kashan IVF center. After DNA extraction, genotypes of samples at intron 2 location were determined by PCR method. Finally, statistical analyses were performed by SPSS software.

Result: The data revealed that genotype frequency of 2R/4R in this study is higher than other genotypes. The frequency of 2R/4R genotype in the infertile group was 17, while this frequency in healthy controls was 20. However, genotype 2R/4R has no association with idiopathic infertility in men (OR: 0.765; 95% CI: 0.3337 to 1.7539, P= 0.5269).

Conclusion: Our study in 100 subjects revealed that the IL1RN VNTR gene polymorphism could not be an appropriate risk factor for male infertility. We suggest that to achieve more accurate results, the aforementioned association be investigated in a larger sample size.

Keywords: IL1RN gene, VNTR polymorphism, Male infertility

P249: The effect of infertility duration on sperm characteristics

Ali asghar Ghafarizadeh [1] , Elham Shojafar [2] , Maryam Jenabi [3] , Samira Naderi noreini [4]

1- Arak Infertility Center, ACECR,Arak, Iran
2- The Phd student of Arak university
3- The manager of andrology laboratory-Arak infertility center-ACECR-Arak
4- The student of Arak university

Corresponding Author: *Ali asghar Ghafarizadeh ghafary2001@yahoo.com*

Background: This study was done to compare the various semen parameters of infertile men in three groups with different duration of infertility and was designed as a retrospective analysis of data collected from men attending to the infertility center in Arak,Iran.

Methods: A total of 100 infertile male patients with the age range of 35 to 40 years, were included in this study and divided to three groups. First group consisted of males with 1-3 years of infertility duration. Second group involved the males with 4-5 years of infertility duration and infertility duration in in the third group was >5 years. Semen samples were collected in laboratory and after liquefaction were analyzed for sperm motility, sperm count and sperm morphology according to World Health Organization guidelines. The results were analyzed using one-way ANOVA and Tukey's test and the means were considered significantly different at P

Result: The sperm motility, sperm count and morphology did not show difference in three groups significantly with P=0.318, P=0.146 and P=0.076, respectively.

Conclusion: These findings indicate that the duration of infertility don't affect sperm characteristics significantly but our findings recommend that it is better to repeat this study with more infertile male patients.

Keywords: Infertility duration, Sperm count , Sperm morphology, Sperm motility

P250: The toxic effect of saffron on fertility of male mice

Khatereh Fazelian, Fateme Hosseini, Masoumeh Mohamadpour, Saeide Yahiavi

Corresponding Author: *Khatereh Fazelian, Shiraz University of Medical Sciences, Shiraz, Iran, Email:kh.fazelian@gmail.com*

Background: Infertility affects an estimated 10% of couples, and in roughly half of these cases the defect can be traced to the male. In fertile men, approximately 10% of sperm have natural clinically shape and normal sperm must have a certain density and a double-stranded DNA. Crocus sativus (saffron) is a perennial herb of the Iridaceae family. Dried saffron is commercially used as a food spice and drugs. New pharmacological studies show that the saffron extract reduces fat and cholesterol level in the blood, increases learning and memory, treats spleen and liver diseases.

Methods: Fourty male mice were randomly allocated into four experimental groups. For 48 days, group I received Busulfan (5mg/kg/day Intraperitoneal), group II Distilled water (equivalent the volume and duration of administration of saffron extract) and group III Busulfan (5mg/kg/day) with saffron extract (250 mg/kg/day Intraperitoneal). On the fiftieth day, the animals were sacrificed and testes and vas deferens were removed and studied histologically and in each case the number of spermatozoa was counted.

Result: The results showed that the saffron extract with dose of 250 mg/kg reduced number of sperms (p=0/045), spermatogonia and morphology (p=0/001).

Conclusion: This study suggests that saffron has adverse effect on spermatogenesis. Main components of saffron , Crocin, Bruksyn, Picrocrocin and Safranal, can induce this effect. Based on different chemical stability of Crocin according to degree of heat, food products can be produced from saffron without teratogenic compounds.

Keywords: Crucin, Fertility, Saffron, Spermatogenesis

P251: The role of DNA fragmentation in male infertility

Nafiseh Shams Nateri

Corresponding Author: *No. 12, Gharbi ghalam st.,Shahinvila, Karaj, Iran, email: nafiseh.pop@gmail.com*

Background: DNA fragmentation is an important factor in the etiology of male infertility. However, it is still under evaluation and its inclusion in routine semen analysis is still debated. DNA fragmentation has been shown to be a robust indicator of fertility potential, more so than conventional semen parameters. The goal of this article was to make clear the importance of DNA fragmentation in male infertility.

Methods: This is a review article derived from 25 articles published in Iran and foreign countries with using keywords like fragmentation, male infertility and infertility that all of them include criteria evidence level 1.

Result: Review of articles showed the significant effect of chromosomal fragmentation on male infertility. This study demonstrated that men with high levels of it in their chromosomes will have significantly lower odds of conceiving naturally or through procedures such as intrauterine insemination and IVF. Oxidative stress is the major cause of DNA fragmentation in spermatozoa. Endogenous and exogenous factors that contribute to oxidative stress were discussed, and in many cases are shown to be easily modifiable. Antioxidants play a protective role, although a delicate balance of reduction and oxidation is required for essential functions, including fertilization.

Conclusion: Reducing oxidative stress may improve a couple's chances of conception either naturally or via assisted reproduction. Sources of oxidative stress therefore should be thoroughly examined in men with high levels of DNA fragmentation and modified where possible.

Keywords: Male infertility, Fragmentation, Infertility

P252: The study of sperm parameters in men referred to the center of infertility, ACECR-Arak, during the second 6 months of 2014

Ali asghar Ghafarizadeh [1] , Ali Akbar Malekirad [2] , Puran Badkoobeh [3]

1- The Center Of Infertility ACECR-Arak, Iran
2- Biology department, Payame noor university,Iran
3- Biology Department, Farhangian university, Arak, Iran

Corresponding Author: *Puran Badkoobeh , Department of Biology, Farhangian University, Arak, Iran, email: pbadkoobeh@yahoo.com*

Background: Infertility is a multifactorial physiopathological condition relating to men's or women's impotence in fertility or a combination of both. Men's debility in fertilization is the main reason in 40-50 percent of the studied cases. The first step in scrutinizing infertility is to analyze semen. In this study, factors such as concentration, sperm count and motility as important indicators of male fertility were evaluated.

Methods: In this cross sectional-descriptive study, the semen of 671 patients who referred to the center of infertility ACECR-Arak were analyzed. The parameters of sperm concentration, sperm count and different grades of sperm motility were evaluated using light microscopy and neobar lam in accordance with WHO guidelines. Data were analyzed with descriptive and analytical statistical methods.

Result: The average of sperm density and total number of sperms found in semen were 54.89 ± 30.2 × 〖10〗^6 and 221.71 ± 186.8× 〖10〗^6, respectively. In the samples tested, motility was about 51.20 ± 18.83 percent in which 12.48 ± 11.19 percent of sperms demonstrated grade A of motility, 27.27 ± 13.66 percent grade B and grade C is assigned to 11.42 ± 6.37 percent of sperm motility. 48.80 ± 18.83 percent were also motionless sperms.

Conclusion: According to the results, it seems to be necessary to examine other factors in male fertility. In addition, in the case of infertile couples, it is recommended to simultaneously evaluate factors related to the wife as well.

Keywords: Infertility, Microscopy, Semen, Sperm motility, Fertility

P253: Expression of Fas and Fas-L on sperm cells from male patients with and without varicocele

Mohammad Sadegh Razeghi [1], Saeed Soleimany [2], Ehsan Kafi [3], Ali Asghar Ketabchi [4], Abbas Bahrampour [5], Mohammad Mahdi Mohammadi [6]

1- Department of Immunology, School of Medicine, Kerman University of Medical Sciences, Kerman, Iran. Department of Laboratory Sciences, Sirjan Faculty of Medical Sciences, Kerman, Iran
2- Department of Immunology, School of Medicine, Kerman University of Medical Sciences, Kerman, Iran.
3- Department of Immunology, School of Medicine, Kerman University of Medical Sciences, Kerman, Iran.
4- Department of urology, Bahonar Hospital, Kerman University of Medical Sciences, Kerman, Iran.
5- Department of Epidemiology, Kerman University of Medical Sciences, Kerman, Iran
6- Department of Immunology, School of Medicine, Kerman University of Medical Sciences, Kerman, Iran.

Corresponding Author: *Department of Laboratory Sciences, Sirjan Faculty of Medical Sciences, Kerman University of Medical Sciences, Kerman, Iran, email: sadeghrazeghi@yahoo.com*

Background: Infertility is considered as one of the main public health issues, because it affects about 15% of the couples of reproductive age. The male factor is involved in 40-50% of infertility cases. Varicocele is an abnormal dilation of the pampiniform venous plexus in the scrotum that develops during puberty; it can affect testicular growth and semen parameters (Specially count and motility), and is considered to be a major cause of male infertility. It is suggested that the spermatogenic dysfunction in varicocele testis may be related partly to an abnormal control of sperm death and apoptosis. The results of studies about the presence of Fas system in semen is a matter of controversy. In this study, we measured the presence on sperm cells of Fas/Fas-L as the major triggers of apoptosis in patients with and without varicocele.

Methods: A case/control study, semen samples were obtained following 3–5 days of ejaculatory abstinence, from 45 adolescents (Mean age 28.3 ± 7.85 years, age matched) with varicocele grades II and III (study group), and 45 adolescents without varicocele (control group). Semen analysis was done according to World Health Organization. The Fas and Fas ligand (Fas-L) expression on sperm cells was performed using flowcytometry. The demographic characteristics were taken by a data collection form. Data were analyzed by using SPSS version 19.

Result: Based on the results of the study, Fas and Fas-L proteins on the surface of sperm ejaculation in patients with varicocele and control groups were not observed.

Conclusion: According to our results, the effects of apoptosis via this system on main sperm parameters (count and motility) were not demonstrated. Decrease in sperm count and motility in varicocele may occur through other mechanisms.

Keywords: Apoptosis, Fas/Fas-L system, Flow cytometry, Varicocele

P254: Relationship between age and oxidative stress in normospermic men

Maryam Hezavehi [1], Homa Kouchesfahani [2], Abdolhossein Shahverdi [3], Mohsen Sharafi [4], Vahid Esmaili [5]

1- Department of Developmental Biology, Faculty of Biological Sciences, Kharazmi University, Tehran, Iran
2- Department of Developmental Biology, Faculty of Biological Sciences, Kharazmi University, postal code 15719-14911, Tehran, Iran
3- Department of Embryology, Reproductive Biomedicine Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran
4- Department of Embryology, Reproductive Biomedicine Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran
5- Department of Embryology, Reproductive Biomedicine Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran.

Corresponding Author: *Shahverdi@royaninstitue.org*

Background: Seminal plasma oxidative stress may be influenced by a wide range of the factors such as age. An imbalance between reactive oxygen species (ROS) generation in sperm and antioxidant capacity of seminal plasma is correlated with sperm characteristics.The purpose of this study was to investigate the effects of age on sperm quality and the seminal oxidative stress in normospermic men.

Methods: Semen samples were collected from normozoospermic men (n=42) without leukocytospermia in two groups. Group 1 included samples of 26 males aged 24–35 years and group 2 included samples of 22 males aged 36–47 years. ROS production and total antioxidant capacity were measured using a chemiluminescence assay and semen

parameters identified were included: sperm concentration and motility (CASA), morphology of (Papanicolou staining) sperm. Data were analyzed using SPSS. The values of P

Result: In group 2, the ROS levels were higher ($p \leq 0.04$),whereas the TAC levels were lower in compared to group 1 and group 2 had lower ROS-TAC scores than group 1 (38.8 v 45.0 8). The percentage of spermatozoa with rapid progressive motility was significantly lower in the group 2 ($p \leq 0.05$). For sperm morphology and concentration there were no significant differences between groups.

Conclusion: Sperm oxidative stress increased with increasing age and a composite ROS-TAC score may be more strongly correlated with infertility than ROS or TAC alone.

Keywords: Age, Male infertility, ROS-TAC score, Oxidative stress

P255: Correlation between BMI and semen quality in infertile men with varicocele

Neda Mahdinejad Gorji [1] , Mohamad Reza Aghajani Mir [2] , Parvane Mirabi [3] , Seyed Gholam Ali Jorsaraei [4]

1- Infertility and Reproductive Health Research Institute, Babol University of Medical Sciences,Babol,Iran
2- Infertility and reproductive health research institute, babol university of medical sciences,babol,iran.
3- Infertility and reproductive health research institute, babol university of medical sciences,babol,iran.
4- Infertility and reproductive health research institute, babol university of medical sciences,babol,iran.

Corresponding Author: *Neda Mahdinejad Gorji, Infertility and Reproductive Health Research Institute, Babol University of Medical Sciences,Babol,Iran, Email: n.mahdinejad@yahoo.com*

Background: Varicocele as multifactorial pathological condition is a major cause of male infertility. Some studies have been reported the prevalence of varicocele decrease with increasing body mass index (BMI). So we aimed to determine association of varicocoele with BMI and sperm count in infertile men with varicocele.

Methods: We evaluated the data of all patients who consulted for infertility at Fatemezahra Infertility and Reproductive Health Research Center. A retrospective cross-sectional study was conducted on 241 men (21-64 years of age) between 2013 and 2014 and reviewed based on inclusion criteria. We filled out a form with providing the men's age, marital age, height, weight, BMI, semen analysis, and presence or absence of varicocoele.

Result: A total of 241 patients, 94 (39%) men had varicocele compared with 147 (61%) men without varicocele. The mean age and BMI of the participants was 31.5 ± 6.3 and 27.7 ± 4.8 kg/m2, respectively. There was a significant difference only in age among infertile men with and without varicocele (p= 0.040). Varicocele was highest in oligospermia males and significantly higher than the men with normal sperm count (p= 0.035). The adjusted OR also showed oligospermia in men with varicocele which was higher than those with none varicocele (OR= 2.09, 95% CI= 1.04, 4.22).

Conclusion: Male obesity is not associated with the sperm parameters and development of varicocoele. However, longitudinal studies and randomized controlled trials with any intervention are needed to address association between BMI and varicocoele.

Keywords: BMI, Sperm count, Varicocele, Male Infertility

P256: Effects of varicocelectomy on libido in patients with high grade varicocele

Amir abbas Asadpour [1] , Alireza Akhavan rezayat [2] , Mohammad Asl zare [3]

1- Mashhad University of Medical Science, Mashhad, Iran
2- Assistant professor of Urology, Mashhad University of Medical Science, Mashhad, Iran.
3- Associated professor of Urology, Mashhad University of Medical Science, Mashhad, Iran.

Corresponding Author: *Alireza Akhavan Rezayat, Email: alirezaakhavan30@yahoo.com*

Background: The aim of this study was to determine the impact of varicocelectomy on libido in patients with high grade varicocele.

Methods: In this clinical trial study, 253 patients (20-35years old) with high grade varicocele(grade 3) were studied since March 2012 to November 2015. Inguinal and sub inguinal varicocelectomy were done for all the patients. These patients indications for surgery were mostly impairment of spermogram . All the patients were evaluated for about 3 to 6 months after

varicocelectomy for any change of their libido comparing with their situation before surgery.

Result: In this study, 144 (56.91%) patients reported increase in their libido mostly during the first month after surgery and 109 (43.08%) patients indicated no significant libido after varicocelectomy.

Conclusion: Our study showed varicocelectomy can improve libido even in short time after varicocelectomy.

Keywords: Libido, Varicocele, Varicocelectomy

P257: The effect of Russell's viper venom on fertility and secondary sexual characteristics

Nicky Nabavi [1] , Mobina Moudi [2] , Ali Motamedi motlagh [3]

1- Faculty of Veterinary Medicine, Islamic Azad University of Babol, Babol, Iran
2- Veterinary student and member of Young researcher club and elite, Faculty of Veterinary Medicine, Islamic Azad University of Babol, Babol, Iran
3- Assistant Professor of Physiological Department, University of veterinary Medicine, Islamic Azad University of Babol, Babol, Iran

Corresponding Author: *Nicky Nabavi, Faculty of Veterinary Medicine, Islamic Azad University of Babol, Babol, Iran, Email: nicky_nabavi@yahoo.com*

Background: Russell's viper is one of the most venomous snakes found in Asia. Its venom has well-known features that can cause severe complications such as hypopituitarism. Russell's viper bite in patients develop features of neurotoxicity and infertility.

Methods: We have done a review in several electronic databases such as PubMed and Google scholar. The following keywords were used alone or in combination, Russell's viper, endocrine system, infertility, secondary sexual characteristics, and hypopituitarism.

Result: The major clinical signs of this snakes bite is hypotension, shock as a consequence of increased vascular permeability, vasodilation and cytotoxicity. It also can cause neurotoxicity, myotoxicity, haemolysis, acute kidney injury, severe local envenoming with necrosis and death. Russell's viper venom is known to contain many toxins, including several different biologically active procoagulant enzymes activating factors V, X and other steps in the blood clotting cascade. Deposition of fibrin microthrombi and heamorrhage in the pituitary gland resulting from the action of venom procoagulant enzymes and haemorrhagins, leads to acute and chronic Hypopituitarism following snake bite. Patients with hypopituitarism have decreased plasma consentration of FSH, LH, estradiol (E2, in women), testosterone, and dihydrotestosterone (in men) which can impair fertility, decrease libido, cause failure in penile erection or menstrual irregularities.

Conclusion: The authors need to mark the importance of preventing mortality, morbidity and consequences of this subject in Iran since poor research on this subject have been done in our country.

Keywords: Endocrine system, Hypopituitarism, Infertility, Secondary sexual characteristics, Russell's viper

P258: Evaluation of sperm count and motility in mice treated with oxaliplatin

Javad Sadeghinezhad [1] , Narges Zadsar [2]

1- Department of Basic Sciences, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran
2- Department of basic sciences, Faculty of veterinary medicine, University of Tehran

Corresponding Author: *Narges Zadsar, Department of Basic Sciences, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran, Email: narges.zadsar@gmail.com*

Background: Oxaliplatin, a third-generation platinum drug has been widely administrated in chemotherapy for the treatment of metastatic colorectal cancer and also other carcinomas. Despite its wide use, there is a poor understanding of its effect on fertility in male. This study was therefore designed to determine the effect of oxaliplatin on sperm count and motility.

Methods: Thirty adult mice were divided into two groups. The treatment group received intraperitoneal injections of oxaliplatin (10 mg/kg) once a week, and control group was injected with normal saline for 35 days. Mice were euthanized by cervical dislocation at the end of the experimental period and then Sperm count and motility were investigated.

Result: Significant decrease ($p < 0.05$) in sperm motility and count were observed in the treatment group in comparison with that of control group.

Conclusion: This study showed that oxaliplatin has negative effects on sperm parameters in treated animals.

Keywords: Count, Mice, Motility, Sperm, Oxaliplatin

P259: The influence of semen parameters and age on motility

Sedighe-Sadat Hosseini, Khadijeh Shabani [1], Arash Ghiasvand Mohammadkhani [2], Farzad Rajaei [3]

1- Msc in Genetics
2- BSc in Nursing
3- Fellowship in Reproductive Biology/ Professor

Corresponding Author: *Telemedicine Infertility Treatment Center, ACECR branch of Qazvin, Felestin Avenue, Qazvin, Iran. Tel.: +98 33362556; fax: +98 2833335007. E-mail address: d.shabani@acecr.ac.ir*

Background: Sperm motility is one of the most important factors in fertile male because it describes the ability of sperm to move properly through the female reproductive tract and reach the egg in order to fertilize it. Various factors such as semen other parameters are known to affect sperm motility. The study was designed to determine how sperm motility and other semen parameters affect each other.

Methods: Patients were instructed to abstain from sexual intercourse for a minimum of 48 hours to 7 days and collect semen by masturbation and transport it to the laboratory through clean semen collection container. Samples were collected from 473 men undergoing evaluation and treatment for infertility. Semen analysis consisted of determination of sample volume, sperm concentration, motility, normal morphology and liquefaction time. Standard clinical semen analysis was performed according to World Health Organization criteria. The smear was made on glass slides, fixed in 95% ethyl alcohol for 30 minutes then stained by using Papanicolaou's staining technique and then analyzed microscopically for morphological examination.

Result: In this analysis, the influence of semen parameters and age on sperm motility was assessed which has shown significant effect on motility. Increased sperm count, sample volume and normal morphology significantly increased sperm motility. In contrast, increased liquefaction and age decreased sperm motility significantly. Our statistical analysis demonstrated that sperm concentration was most effective in motility whereas semen volume has the lowest effect on motility.

Conclusion: In our study, it was shown that sperm motility and other semen parameters tend to have an influence on each other. It is obvious that sperm motility has important role during seminal analysis and our study has shown that it affects most of the seminal fluid parameters.

Keywords: Age, Infertility, Semen Parameter, Sperm Motility

P260: Assessment of sperm infertility patients referred to the Jihad Daneshgahi Infertility Treatment Center (Qom-Iran) in the period between March to April 2015

Mohsen Sheykhhasan [1], Mahdieh Ghiasi [2]

1- The Academic Center for Education, Culture and Research, Qom Branch, Qom, Iran
2- The Academic Center for Education, Culture and Research, Qom Branch, Qom, Iran

Corresponding Author: *Mahdieh Ghiasi The Academic Center for Education, Culture and Research, Qom Branch, Qom, Iran mobile number: 09127512731 mahdieh.ghiasi@yahoo.com*

Background: Sperm parameters are a critical factor in male infertility. The aim of this study was to evaluate of sperm status in patients referred to the Jihad Daneshgahi Infertility Treatment Center (Qom-Iran) during March and April 2015, according to the World Health Organization's guidelines.

Methods: During 2 months, 680 male individuals were referred to the Jihad Daneshgahi Infertility Treatment Center (Qom-Iran), a center that specializes in research and treatment of male infertility and semen analyses according to World Health Organization guidelines.

Result: According to results of present study, it was found that 20 patients (3%), 110 patients (16.2%), 10 patients (1.5%), 10 patients (1.5%), 10 patients (1.5%), 110 patients (16.2%), 310 patients (45.4%) and 110 patients (16.2%) were normal sperm, oligo-tetra-astenozoospermic, oligo-teratozoospermia, oligo-astenozoospermic, tetra-astenozoospermic, astenozoospermic and azoospermia, respectively.

Conclusion: The results of this study showed that the oligo-tetra-astenozoospermic and tetra-astenozoospermic patients were included more than other patients.

Keywords: Male infertility, World Health Organization, Semen analyses

P261: Evaluation of semen appearance and morphological parameters of sperm in men referred to the center of infertility ACECR-Arak during the second 6 months of 2014

Ali Akbar Malekirad [1] , Puran Badkoobeh [2]

1- Biology Department, Payame Noor University, Tehran, Iran
2- Biology Department, Farhangian university, Arak, Iran

Corresponding Author: *Badkoobeh, Puran - Biology Department, Farhangian university, Arak, Iran pbadkoobeh@yahoo.com*

Background: Infertility is common among couples of childbearing age. Half of known causes of primary infertility are attributable to male factor. The first step in scrutinizing male infertility is to analyze semen. So in this study, the semen in appearance as well as the variety of abnormal sperm shapes were examined.

Methods: In this cross sectional-descriptive study, the semen of 671 patients who referred to the center of infertility ACECR-Arak was analyzed. The parameters of semen like the appearance, and types of sperm shape abnormalities were examined in accordance with WHO guidelines.

Result: In this study, the average PH of semen was 7.66±0.38, and 69.4% of samples showed normal viscosity. Mean volume of semen was 4.01± 1.83. Also 4.03 ± 2.72 percent of sperms were morphologically natural. But 0.63 ±1.19, 0.49 ± 1.11, 3.80±8.22 and 0.65 ±1.75 percent were respectively double head, giant head, pin head and round head. Also 0.49±1.03, 2.28±3.03, 033±1.06 were double tail, coiled tail and short tail respectively. 81.09±14.14 percent of sperms were also classified as amorphous.

Conclusion: Results of our study show a high rate of sperm morphological abnormalities. Nowadays different treatment methods are recommended to improve sperm morphological parameters. It seems that the use of antioxidants such as vitamin E, zinc, etc. with reducing oxidative stress can improve sperm morphology and thus increase the likelihood of fertilization.

Keywords: Infertility, Oxidative stress, Semen, Sperm, Fertility

P262: A review of varicocelectomy and improvement of sperm analysis

Masoumeh Pourmohsen [1]

1- Nursing and Midwifery Department, Islamic Azad University,Rasht Branch, Guilan, Rasht, Iran

Corresponding Author: *Nursing and Midwifery Department, Islamic Azad University,Rasht Branch, Guilan, Rasht, Iran. Mail: pourmohsen@iaurasht.ac.ir*

Background: Infertility is one of the most important issues of public health. The most common abnormal sperm parameters in patients with varicocele, reduced mobility (90%), followed by reducing the number of sperm. The sperm morphological abnormalities are also common. Because of the high incidence of infertility and varicocele treatment since a positive impact on all aspects of sperm is not well known, this article reviewed the literature related to varicocelectomy.

Methods: By searching PubMed, a review of studies from 2000 to 2015, varicocelectomy impact on the number, motility and morphology were examined.

Result: Overall, 31 articles were studied and evaluated, and the results of 18 articles (13 articles in English and five articles in Persian) were finally assessed.

Conclusion: According to the literature reviewed in this article, it seems that varicocelectomy has a significant effect in improving the overall sperm concentration and motility. Results of the study were faced with a significant number of confounding factors. So doing controlled studies that considered more confounding variables is essential.

Keywords: Review, Semen analysis, Varicocelectomy

P263: Association between age and sperm parameters in normozoospermic men

Baharan Dolatshahi [1]

1- Department of Biology, Faculty of Science, Shahid Chamran University of Ahvaz, Ahvaz, Iran

Corresponding Author: *2Department of Biology, Faculty of Science, Shahid Chamran University of Ahvaz, Ahvaz, Iran. mdorostghoal@yahoo.com*

Background: Over the last decade, there has been a significant increase in average paternal age. Paternal age has also been demonstrated to impact reproductive and fertility outcomes including increased time to pregnancy, decreased pregnancy rates, decrease in IVF/ICSI success rate and increasing rate of preterm birth. Present study was done to investigate the relationship between male age and sperm parameters in normozoospermic men.

Methods: The study was approved by the institutional review board of Biology Department, Shahid Chamran University of Ahvaz. Semen samples from 160 non-smoking men without known fertility problems were obtained. The objects were divided into six groups: 20-25 years, 26-30 years, 31-35 years, 36-40, 41-45 years and ≥45 years. Sperm concentration, motility and normal morphology were analyzed according to the World Health Organization (WHO) guidelines.

Result: Highest levels of sperm concentration (59.90±7.17), motility (50.60±8.74) and normal morphology (34.43±11.14) were observed in groups 31-35, 20-25 and 26-30 years, respectively. Significant declines (p

Conclusion: Our findings demonstrated age-related changes in sperm quality and suggest that increasing paternal age is associated with an increased risk of male infertility.

Keywords: Male infertility, Normozoospermic men, Semen quality, Sperm motility, Age

P264: Bacterospermia, the leading cause of male infertility

Naghmeh Javanshir rezaei [1] , Aylin Esmail khani [2] , Afshin Samadi [3]

1- Tabriz university of Medical Sciences, Tabriz, Iran
2- Tabriz medical university
3- Hacettepe university,ankara

Corresponding Author: *Naghmeh Javanshir rezaei, No. 8, Parastoo Flat, 8th Alley, Azadegan, Email: naghmehjavanshirrezaei@yahoo.com*

Background: Although the male reproductive function is impaired in about half of infertile couples, the evaluation of male infertility is underrated or neglected even today.Male factor infertility accounts for 60% of infertility cases.The current rise of male infertility is associated with bacterospermia and urogenital infection.

Methods: Using standard microbiological culture methods for identifying and antibiotic susceptibility, standard analysis of semen parameters was performed according to WHO guidelines.

Result: Out of a total number of 96 specimen processed,32.2% yielded bacterial growth with Staphylococcus aureus,Escherichia coli, Proteus and S. saprophyticus had the highest incidence rate of 41.9, 29, 16.1 and 12.9 percent, respectively.

Conclusion: This study showed that Staphylococcus aureus and Escherichia coli were the most common pathogens having negative effects on sperm motility and morphology.

Keywords: Antibiotic suceptibility, Male infertility, Bacterospermia

P265: Investigating the effect of varicocele surgery on fertility of men referred to the center of Royan Jihad Daneshgahi of Qom

Mahin Dokht Saadatmand [1] , Sara Daemi [2] , Negin Sayari [3]

1- Department of Midwifery,collage of Medicine, Islamic Azad University, Qom Branch, Qom, Iran
2- Student of Midwifery, Islamic Azad University, Qom Branch, Qom, Iran
3- Student of Midwifery, Islamic Azad University, Qom Branch, Qom, Iran

Corresponding Author: *Negin Sayyari, Email: negin.sayari@gmail.com*

Background: Varicocele means the dilation of the veins of the testicular due to the returning of venous blood to the heart. About 40 percent of men with infertility are suffering from varicocele. There is no pharmaceutical treatment for varicocele and it is only treatable through surgery, and in fact, it is the most

common surgery done to correct male infertility. Varicocele, though, harms production and quality of sperm, it is not a reason for all male fertility problem. As a result, all varicocele patients do not need treatment. Most scientists believe that varicocele surgery can improve sperm quality and male fertility, but since some people also believe that varicocele surgery does not improve male fertility, this study was conducted to determine the fertility rate after varicocele surgery for those men referred to Royan jihad Daneshgahi center of Qom.

Methods: This sectional descriptive study was conducted on 30 men with varicocele who referred to Royan jihad Daneshgahi center of Qom for treatment in 2015. Sampling was made with the non-random selection. The data collection tool was a researcher-made questionnaire that included demographic information and questions related to infertility. Data analysis was carried out using SPSS statistical software (version 16) and Pearson correlation coefficient. The P less than 0.05 was considered significant.

Result: Among the samples, number and motility, were the greatest problem in the sperm analysis. 10 patients had backgrounds of smoking and one case had drug addiction. Among these patients, the followings were excluded: 6 people due to simultaneous infertility problem of wife, 2 people due to the choice of traditional medicine rather than surgery, 2 people due to cancelation of treatment, 2 people due to the choice of IUI before surgery, and, one person due to drug addiction. Also, pregnancy of wife in one Grade 3 of left varicocele before surgery was observed in which the sample, unavoidably, was removed. Finally, Among the remaining 14 cases who had varicocele surgery, 2 cases (2/14%) were successful to fertilize their wives.

Conclusion: A controlled prospective randomized study by Magdar et al. has demonstrated that varicocele surgery is an effective treatment for male infertility. They studied two groups of men and their wives as Group A and Group B. Group A (20 men with varicocele) were studied for one year and only 2 patients (10%) were able to make their women pregnant. The rest of the men who could not make their wives pregnant, underwent varicocele restoration and during the two years, 12 patients (66%) of them were able to have pregnancies.

Keywords: Infertility, Surgery, Varicocele

P266: Evaluation of sperm chromatin status between two sperm selection procedures: zeta method and MACS

Marzieh Tavalaee [1] , Mohammad Hossein Nasr-Esfahani [2]

1- Department of Reproductive Biotechnology at Reproductive Biomedicine Research Center, Royan Institute for Biotechnology, ACECR, Isfahan, Iran
2- Isfahan Fertility and Infertility Center, Isfahan, Iran

Corresponding Author: *Marzieh Tavalaee, Department of Reproductive Biotechnology at Reproductive Biomedicine Research Center, Royan Institute for Biotechnology, ACECR, Isfahan, Iran, E-mail: tavalaee.royan@gmail.com*

Background: Density gradient centrifugation (DGC) technique and swim up method are mainly two sperm preparation procedures which are routinely used in the andrology labs for separation of sperm with normal morphology and motility. Sperm selection based on viability and normal morphology does not eliminate the chance for DNA damaged spermatozoa to be inseminated during ICSI (Intra cytoplasmic sperm injection). Therefore, novel sperm selection procedures have been recently used for ICSI. In this study, we aimed to evaluate sperm chromatin status between two sperm selection procedures: zeta method based on surface charge and MACS (magnetic activated cell sorter) based on surface apoptotic marker in infertile men.

Methods: Semen samples were collected from 20 infertile men. Each sample was divided into three portions. One portion was washed with Ham's F10+10 % albumin (unprocessed sample), second portion was used for "DGC- Zeta procedure" and the third portion was subjected for "MACS-DGC procedure". On each portion, percentage of sperm with abnormal morphology (papanicolaou staining), protamine deficiency (Chromomycin A3 staining) and DNA fragmentation (TUNEL staining) were evaluated and compared between portions.

Result: Percentage of sperm with abnormal morphology, DNA fragmentation and protamine deficiency were significantly decreased in the MACS and zeta procedures compared to unprocessed.

Conclusion: The result of this study suggested that using novel sperm selection procedures alone with

DGC could be useful for treatment of infertile men with high percentage of DNA fragmentation and protamine deficiency.

Keywords: MACS method, Morphology, Protamine deficiency DNA fragmentation, Zeta method

P267: Protein beta-defenses 126 and its relationship with infertility

Farideh Allahgahi [1]

1- Islamic Azad University, Damghan, Iran

Corresponding Author: *Islamic Azad University, Damghan, Iran, email: faridehalahgahi@gmail.com*

Background: Infertility is a major problem and finding solutions to the survival of the human race is important. The purpose of this study was to evaluate gene polymorphism and protein expression levels of beta defenses 126 and find the positive relationship with the results of IUI infertility treatment.

Methods: The study included 66 men with unexplained infertility with natural indicator of sperm parameters on the basis of standard criteria (WHO) who referred to Royan Institute for Reproductive Medicine Center undergoing IUI. This study was conducted as a case-control study. Blood and semen samples were collected after the cases completed the information form and consent to investigate gene and protein beta- defenses 126 and its relationship with IUI in the period of one year from September 2014 to October 2015.

Result: The results of the project showed that protein analysis defenses is an important factor in infertility.

Conclusion: The analysis of genotype polymorphisms of less fertile males for the removal of beta defenses 126 can help determine fertility interventions that were effective in this study and it provides a situation in the future so that these types of patients can be trained in this regard.

Keywords: IUI, Proteins defenses, Sperm, Infertility

P268: Comparison of conventional sperm selection versus base on hypo-osmotic swelling procedure in oligospermic men and evaluation of ICSI outcome

Maryam Tehrani [1] , Maliheh Amirian [2] , Alireza Ebrahimzadeh bideskan1 [3] , Mohsen Jalali [4]

1- Department of Anatomy and Cell Biology, School of Medicine, Mashhad University of Medical Sciences, P.O. Box 91779-48564, Mashhad, Iran
2- Department of Reproductive Medicine and Gynaecology, Milad(Mashhad) infertility center
3- Department of Anatomy and cell biology, School of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran
4- Department of Reproductive Medicine, Milad(Mashhad) infertility center

Corresponding Author: *Maryam Tehrani, Department of Anatomy and Cell Biology, School of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran, Email: msetehrani@gmail.com*

Background: These days, an appropriate approach that makes credible the ability to choose the best quality sperm for ICSI is discussed. This study evaluated sperm selection procedure based on hypo-osmotic swelling and compared the results with routine sperm selection in oligospermic men undergoing intracytoplasmic sperm injection.

Methods: In our prospective study, 30 couples with male infertility were included. Semen analysis and determination of DNA fragmentation were done and then sperm preparation technique via the density gradient centrifugation was carried out. The oocytes of each patient after retrieval were divided into two groups of control sperm selected for ICSI based on morphology and motility characteristic and treatment group (HOST group) and oocytes were inseminated by sperm and selected by hypo-osmotic swelling test HOST. Next, we evaluated fertilization rate,embryo development,embryo quality, and compared clinical outcome of FR,ED,EQ between two groups after ICSI.

Result: Our results showed that there was a significant increase in fertilization rate in control group p

Conclusion: This study showed that sperm selection has prominent role for successful clinical outcome after ICSI and sperm selection according to HOST procedures is useful and may improve clinical outcomes in male infertility.

Keywords: ICS,I Fertilization, HOST, DNA fragmentation ,Male infertility ,Density gradient centrifugation

P269: Idiopathic male infertility and KISS1R polymorphism

Azadeh Poursharif, Hamidreza Vaziri [1], Tooba Mirzapour [2]

1- Assistant Professor
2- Assistant Professor

Corresponding Author: *Azadeh Poursharif, No. 56, Ansari St., Amlash, post code 4495173977, Iran, Email: azadeh_poursharif@yahoo.com*

Background: Infertility is the inability of a couple to conceive over an average period of one year with unprotected sexual intercourse. In mammals, fertility is initiated at puberty by the pulsatile secretion of gonadotrophin releasing hormone. Kisspeptin (Kp) and its receptor (KISS1R) have been identified recently as vital upstream regulators that integrate central and peripheral signals with GnRH release. In this study, the relationship between polymorphism rs 397515615 in the KISS1R gene with idiopathic male infertility was investigated.

Methods: In this study, the samples from 50 infertile men and 50 healthy men (as controls) were tested. AS-PCR method was applied for determination of the codon polymorphism. To estimate the association between genotype and allele frequencies in cases and controls, P-values were assessed by chi-square ($\chi 2$) analysis.

Result: The results of experimental techniques and statistical calculations, showed that genotype frequencies observed between healthy and patient groups indicate significant differences between the two groups ($P = 0.02$), while the distribution of alleles (Gly/Ala) in patient and control groups was not significant ($P = 0.20$).

Conclusion: The results of this study suggest that KISS1R rs 397515615 may affect the increased susceptibility to idiopathic male infertility. However, future studies with large-studied and different geographical population are needed to confirm our results.

Keywords: KISS1R gene, Polymorphism, Infertility

P270: Effects of ascorbic acid on sperm motility, viability, acrosome reaction and DNA integrity in teratozoospermic samples

Mohammadreza Parvizi [1]

1- Department of Physiology, Medical School, AJA University of Medical Sciences, Tehran, Iran

Corresponding Author: *Department of Physiology, Medical School, AJA University of Medical Sciences, Tehran, Iran, email: mparvizi@alumnus.tums.ac.ir*

Background: Oxidative stress in teratozoospermic semen samples caused poor assisted reproductive techniques (ART) outcomes. Among antioxidants, ascorbic acid is a naturally occurring free radical scavenger and as such its presence assists other mechanisms in decreasing numerous disruptive free radical processes. The main goal was to evaluate potential protective effects of ascorbic acid supplementation during in vitro culture of teratozoospermic specimens.

Methods: Teratozoospermic semen samples that collected from 15 volunteers were processed, centrifuged and incubated at 37 C until sperm swimmed-up. Supernatant was divided into four groups and incubated at 37 C for one hour under different experimental conditions: Control, 10 µm A23187, 600µm ascorbic acid and 10 µm A23187+600 µm ascorbic acid. After incubation, sperm motility, viability, acrosome reaction, DNA damage and malondialdehyde levels were evaluated.

Result: Our results indicated that after one hour incubation, ascorbic acid significantly reduced malondialdehyde level in ascorbic acid group (1.405±0.112 nmol/ml) compared to control group (1.584±0.139 nmol/ml) (p

Conclusion: In vitro ascorbic acid supplementation during teratozoospermic semen processing for assisted reproductive techniques could protect teratozoospermic specimens against oxidative stress, and it could improve ART outcome.

Keywords: DNA fragmentation, Oxidative stress, Reaction acrosome, Teratozoospermic sperm, Ascorbic acid

P271: Influence of unilateral orchidectomy on contralateral testis in rat, prepubertal and postpubertal

Hassan Ahmadnia [1], Mahmoud Dolati [2], Mohamad Khaje Daloee [3]

1- Department of Urology, Faculty of Medicine Endoscopic and Minimally Invasive Surgery Research University of Medical

Sciences, Mashhad, Iran
2- University of Medical Sciences, Mashhad-IRAN Mashhad
3- Associate Prof. Community Medicine

Corresponding Author: *Hassan Ahmadnia, Professor of Urology, Department of Urology, Faculty of Medicine Endoscopic and Minimally Invasive Surgery Research University of Medical Sciences, Mashhad, Iran, email: ahmadniah@mums.ac.ir*

Background: The present study was conducted to investigate the influence of unilateral orchidectomy and age of orchidectomy on the subsequent contralateral testis.

Methods: 64 Wistar-derived male rats were divided randomly in 4 groups. Group 1 named immature intervention, group 2 immature control, group 3 mature intervention and group 4 mature control. In group 1, rats castrated unilateral at 30 days of age (prepubertal). In group 2 sham surgery (midscrotal incision) was done at the same age. In group 3 rats castrated unilateral at 70 days of age (postpubertal) and in group 3 sham surgery was done at the same age. 20 days after first surgery, in intervention groups contralateral orchiectomy was done and in control groups random orchiectomy (left or right) was done. Blood sampling for evaluation of serum testosterone was performed just before second surgery.

Result: Testis weight and the mean testicular weight per 100 g of body weight was greater in group 1 and 3. These parameters were greater in prepubertal group (group 1) than postpubertal group (3). There was no appreciable difference in serum testosterone levels in 4 groups.

Conclusion: Our research demonstrated that unilateral orchidectomy resulted in compensatory hypertrophy of the remaining testis and it decreased as the animals aged. unilateral orchidectomy does not lead to reduction in serum testosterone levels and remaining testis can retrieve a normal serum testosterone level.

Keywords: Compensatory hypertrophy, Rat, Testis, Unilateral orchiectomy, Iatrogenic torsion

P272: Identification of GPR15 as novel co-receptor for IZUMO(sperm-egg fusion protein) and analyzing their interactions by integrating system biology, molecular docking and modeling

Fardin Amidi [1] , Sahar Esfandyari [2] , Mohammad mehdi Ranjbar [3]

1- Anatomy and Embryology Department, Medical School, Tehran University of Medical Sciences, Tehran, Iran
2- Anatomy and Embryology Department, Medical School, Tehran University of Medical Science, Tehran, Iran
3- Razi Vaccine & Sera Institute, Karaj, Iran

Corresponding Author: *Anatomy and Embryology Department, Medical School, Tehran University of Medical Science, Tehran, Iran, email: mm.ranjbar.phd@gmail.com*

Background: For fertilization process, sperm cell-surface protein called "IZUMO" was required as a ligand for IZUMO1R/JUNO and CD9 receptor on egg. The IZUMO1:IZUMO1R/JUNO interaction is a crucial adhesion step between sperm and oocyte in plasma membrane binding and fusion, but also is not sufficient for cell fusion. Here, we found G protein-coupled receptor 15 (GPR15) as another partner of sperm-egg interaction which is located on egg.

Methods: Initially known and predicted protein-protein network interactions of IZUMO1 were analyzed by STRING database. Also, primary structure of IZUMO1 and its IZUMO1R:JUNO and CD9 receptors was retrieved from UniprotKB database, and their 3-dimensional structure (3D) was modeled by both threading and homology modeling. Then, modeled structure was energetically minimized and validated by SPDV software and Rammapage and eventually prepared for docking (hydrogen partial atomic charges assigned using the Gasteiger- Marsili method) by Chimera UCSF 1.10. Also, the docking studies were performed by HEX version 8. Finally, binding energy, pose of interactions, hydrogen bonds and electrostatics characteristics were analyzed.

Result: System biology analysis showed that beside IZUMO1R/JUNO and CD9 ,GPR15 maybe another functional partners for IZUMO1 by score of 0.705 (text mining approach). Also, Rammachandran plot of modeled structures represent high quality of modeling procedure and the modeled structure used for docking. Docking analysis showed that GPR15 could interact with IZUMO by Arg65-Trp202 and Thr147-Asn205 hydrogen and also hydrophobic bonds. Furthermore, this interaction has negative binding energy which represents possibility of occurrence in nature.

Conclusion: Understanding the molecular mechanisms and interactions as well as proteins

involved in sperm-egg recognition/fusion is required for treating infertility and developing novel, non-hormonal methods of contraception. A necessary event of fertilization is the sperm-egg interaction that allows the two gametes to fuse and generate the zygote. In the present study, we introduced new co-receptor (GPR15) on egg which helps IZUMO1R/JUNO and CD9 to bind stronger to IZUMO1.

Keywords: GPR15, IZUMO1, Molecular docking, System biology, Sperm-egg interaction

P273: DNA methylation and histone modifications in promoter regions correlate with CYP19A1 gene expression in women with or without polycystic ovary syndrome

Elham Hosseini [1] , Maryam Shahhoseini [2] , Leili Karimian [3] , Parvaneh Afsharian [4] , Mahnaz Ashrafi [5] , Fereshteh Mehraein [6] , Reza Aflatoonian [7]

1- Anatomy Department, School of Medicine ,Iran University of Medical Sciences, Tehran, Iran
2- Department of Genetics at Reproductive Biomedicine Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran
3- Department of Embryology, Reproductive Biomedicine Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran.
4- Department of Genetics, Reproductive Biomedicine Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran.
5- Department of Endocrinology and Female Infertility, Reproductive Biomedicine Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran
6- Anatomy Department, School of Medicine ,Iran University of Medical Sciences, Tehran, Iran
7- Department of Endocrinology and Female Infertility, Reproductive Biomedicine Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran.

Corresponding Author: *Elham Hosseini, Anatomy Department, School of Medicine ,Iran University of Medical Sciences, Tehran, Iran Department of Endocrinology and Female Infertility at Reproductive Biomedicine Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran, Email: elhamhosseinid@gmail.com*

Background: PCOS is a multifactorial disease. Differential genetic and epigenetic pathways of several genes in various tissue and cell types have been identified as important factors in etiopathogenesis of PCOS. Of essential genes for ovarian functions and folliculogenesis is CYP19A1 (aromatase coding gene) and its involvement in the pathogenesis of PCOS has been studied. This study aimed to evaluate whether epigenetic alterations in cumulus cells are involved in the ovarian aromatase expression in infertile PCOS.

Methods: Cross- sectional study was conducted on 24 patients (12 infertile PCOS patients and 12 patients with tubal factors of infertility or egg donor), who underwent ovarian stimulation with GnRH antagonist. Informed consents were obtained from the participants. Cumulus oocyte complexes were obtained. RNA extraction and cDNA synthesis from cumulus cells (CCs) were performed. Expression of CYP19A1 gene was examined by qRT-PCR. DNA incorporation of MeCP2 (as a marker of DNA methylation) and histone modifications marks in PII, PI.3 and PI.4 promoters of CYP19A1 gene were examined by ChIP-Real time-PCR assay.

Result: CYP19A1 gene expression was significantly higher in CCs of PCOS versus control group. In CCs of PCOS, DNA methylation at PII and PI.3 promoters were significantly lower in comparison with controls. Furthermore, incorporation of histone H3K9ac mark in PII, PI.3 and PI.4 promoter regions of CYP19A1 were significantly higher than those of control group (P

Conclusion: Changes in incorporation levels of histone3 K9 methyl and acetyl marks (H3K9me2 and H3K9ac) at CYP19A1 regulatory regions in cumulus cells were observed in PCOS patients compared to non-PCOS women. The results of this study are important for understanding the mechanism of changes in aromatase gene expression and may help to further understand the ovarian hyperstimulation syndrome(OHSS) and its management in these patients.

Keywords: Aromatase, Cumulus cell, Epigenetic, PCOS

P274: Effect of delipidated obesity serum on oocyte quality marker cyclooxygenase 2 in human cumulus cells

Masoud Darabi [1] , Alireza Mardomi [2] , Mohammad Nouri [3] , Dariush Shanehbandi [4] , Mehdi Yousefi [5]

1- Department of Biochemistry and Clinical Laboratories, School of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran. Department of Medical Biotechnology, School of Advanced Medical Sciences, Tabriz University of Medical Sciences, Tabriz, Iran.
2- Department of Medical Biotechnology, School of Advanced Medical Sciences, Tabriz University of Medical Sciences, Tabriz, Iran.

3- Department of Biochemistry and Clinical Laboratories, School of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran.
4- Immunolgy Research Center, Tabriz University of Medical Sciences, Tabriz, Iran.
5- Immunolgy Research Center, Tabriz University of Medical Sciences, Tabriz, Iran.

Corresponding Author: *Department of Biochemistry and Clinical Laboratories, School of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran. Department of Medical Biotechnology, School of Advanced Medical Sciences, Tabriz University of Medical Sciences, Tabriz, Iran, email: darabim@tbzmed.ac.ir*

Background: Obesity is associated with significant changes in metabolic profile of serum. Current study was designed to test whether whole or delipidated serum from normal weight and obese women induced different effects on cyclooxygenase 2 (COX2) gene expression as an oocyte quality marker in primary cultured cumulus cells (CCs).

Methods: Fasting serum samples were collected from 10 obese (>30 BMI) and 10 normal-weight healthy women and were pooled separately. CCs were obtained from women undergoing oocyte retrieval for in vitro fertilization/intracytoplasmic sperm injection. All samples were obtained with donor consent and with the approval of the local ethics committee. Lipid-depleted serum samples were prepared according to a standard protocol using dextran-coated charcoal. CCs were cultured in media supplemented with 10% of each serum samples. Serum metabolic profile and COX2 gene expression were measured using spectrophotometric and quantitative PCR techniques, respectively.

Result: Serum samples from obese women showed significant higher levels of estradiol and lower levels of progesterone and testosterone (p

Conclusion: Serum of obese women even after lipid depletion increased the expression of the oocyte quality marker gene COX2 in CC. These findings suggest that obesity serum may have beneficial effects on CC function which is likely attributed to non-lipid factors.

Keywords: COX2, Lipids, Oocyte maturation, Obesity

P275: Rational design of biologically active small peptides derived from human β-defensin 1

Matin Asghari [1] , Kianoush Dormiani [2] , Fatemeh Aboutalebi [3] , Mansour Poorebrahim [4]

1- Department of Molecular Biotechnology, Cell Science Research Center, Royan Institute for Biotechnology, ACECR, Isfahan, Iran
2- Department of Molecular Biotechnology, Cell Science Research Center, Royan Institute for Biotechnology, ACECR, Isfahan, Iran.
3- Department of Molecular Biotechnology, Cell Science Research Center, Royan Institute for Biotechnology, ACECR, Isfahan, Iran.
4- Department of Medical Biotechnology, School of Advanced Technologies in Medicine, Tehran University of Medical Sciences, Tehran, Iran.

Corresponding Author: *Mansour Poorebrahim, Department of Medical Biotechnology, School of Advanced Technologies in Medicine, Tehran University of Medical Sciences, Tehran, Iran. E-mail: mpoorebrahim@razi.tums.ac.ir*

Background: It is now well established that epididymis-specific β-defensins are critical for regulating sperm function and fertility. Here, we have designed two potent small peptides from C-terminal of human β-defensin 1 (HBD1).

Methods: Multiple sequence alignment of human beta defensins was performed using Clustal omega web tool and obtained result was visualized by Jalview software. The functional residues of HBD1 were predicted using ProFunc and ConSurf servers as well as literature-based information. Two peptides were designed from identified functional sites. Molecular docking and molecular dynamics (MD) studies were carried out using ClusPro and Gromacs tools respectively. Prior to docking, 3 dimensional (3D) structure of HBD1 was obtained from protein data bank (PDB). We used Modeller v9.15 to predict 3D structure of CCR6. Quantitative evaluation of model quality was applied using VADAR server.

Result: Computational analyses revealed that the main functional residues of HBD1 are located at the C-terminal region. Two boxes were chosen as candidate regions for peptide designing. These peptides could tightly bind to the CCR6, a HBD1 functional receptor on dendritic and T cells suggesting that these peptides can recruit immune cells in a similar way as HBD1 does. The lowest binding energy of Peptide-I, Peptide-II and native HBD1 to CCR6 were calculated as -997.6, -1127.4 and -1014.8 respectively. MD results indicated that designed peptides are highly stable after 3 ns simulations.

Conclusion: Our results suggest that the small peptides derived from functional C-terminal of HBD1 can be used instead of HBD1 in the fertility studies.

Keywords: Computational designing, Fertility, Small peptide, HBD1

P276: Comparison of gene expression profiles in human germinal vesicle oocyte before and after cytoplasmic transfer in Iranian infertile couples

Fatemeh Sadat Hosseini [1]

1- Tehran University of Medical Sciences, Yas Women General Hospital, Tehran, Iran

Corresponding Author: *Fatemeh Sadat Hoseini, Tehran University of Medical Sciences, Yas Women General Hospital, Tehran, Iran, email: fshoseini@razi.tums.ac.ir*

Background: The present study was conducted to evaluate the effect of cytoplasm transfer from mature oocytes to germinal vesicle (GV) oocytes on promoting the maturation of nuclei and cytoplasm of GV oocytes as the cytoplasm recipient at the mRNA level.

Methods: Sixty six infertile couples who underwent in vitro fertilization (IVF)/Intracytoplasmic sperm injection (ICSI) between June 2012 and November 2013 at the Infertility Center of Tehran Women General Hospital, Tehran University of Medical Sciences, were included in this study. We included the women that had undergone IVF treatment because of male factor, tubal factor, or unexplained infertility. We obtained 120 GV oocytes donated by women. Normal GV oocytes were categorized into 3 groups randomly by the statistician, each consisting of 40 oocytes: the first comprised oocytes that did not receive the cytoplasm of mature oocytes; the second group comprised oocytes that did not receive the cytoplasm of mature oocytes but were incubated for 24 h; and the third group comprised oocytes that received 10-15% cytoplasm of mature oocytes by a microinjection pipette and were then incubated for 24 h. After the sampling, pool of 40 GV oocytes for each group was separately analyzed by quantitative polymerase chain reaction (qPCR) and finally the expression levels of genes involved in the cytoplasmic maturity, meiosis, spindle check point, DNA repairing, and cell cycle checkpoint were assessed.

Result: The present study showed that the expression levels of genes involved in the cytoplasmic maturity (GDF9, BMP15), and adenosine triphosphate production (ATPase6) were significantly higher in the pooled oocytes of 2nd control group than those of the 1st control and intervention groups (P value < 0.001). The genes involved in the meiosis (CDC25, AURKC), spindle check point (BUB1,CDC20, MAD2L1), DNA repairing and cell cycle checkpoint (ATR, ATM, BRCA1) did not have any expression in the 1st and 3rd groups; however, these genes were expressed in the 2nd group, significantly. In the second group, the highest expression level was observed for genes involved in the DNA repairing and cell cycle checkpoint. On the other hand, in the third group, none of the genes were expressed, except for ATPase 6; even in this case, the expression level of this gene in this group of oocytes was significantly lower than that in other groups (P value < 0.001). After 24 h, based on the morphology of the oocytes, meiosis assumption was significantly higher in the third group than in the second group (95% vs. 68%, P

Conclusion: Although mature oocyte cytoplasm transfer techniques to GV oocytes can morphologically enhance the resumption of meiotic maturation to levels as high as 95% in the recipient oocyte, this disrupts the expression of genes involved in the cytoplasmic maturity of the cell, and the maturity of the nuclei occurs independently of cytoplasmic maturity. This lack of success can be attributed to impaired Ca2+ oscillation and intra cell signaling, interference in the activity of transcription factors, insufficient transfer of mRNA, asynchronized cytoplasmic transfer, removal of the mitochondria transferred to the GV oocyte, disturbed epigenetic regulation, or nuclear DNA deficiency in the GV oocyte (based on the observed increase in the expression of genes involved in DNA repair in the nuclei). Although the results of previous studies have shown that the cytoplasm transfer from a mature oocyte to a high-risk oocyte with cytoplasmic defects may lead to restoring the normal growth of the recipient oocyte, this study suggests, by evaluating the mRNA, that the cytoplasm transfer technique is not effective in cytoplasmic maturity of the recipient GV oocytes. In contrast, 24-hr in-vitro culture is associated with increased expression of genes involved in the cytoplasmic maturity, meiosis, spindle and cell cycle checkpoint in GV oocytes.

Keywords: Cytoplasmic transfer, Oocyte maturity, Gene expression

P277: Role of UCP-2 45bp ins/del and SIRT-1 rs7895833 polymorphisms in the susceptibility of polycystic ovary syndrome

Zahra Rezaei [1] , Leila Kohan [2] , Majid Yavarian [3]

1- Department of Biology, College of Sciences, Islamic Azad University, Arsanjan Branch, Arsanjan, Iran
2- Department of biology, Islamic Azad University, Arsanjan branch, Arsanjan, Iran
3- Hematology Research center, School of Medicine, Shiraz University of Medical sciences, Shiraz, Iran

Corresponding Author: *Zahra Rezayi, Department of Biology, College of Sciences, Islamic Azad University, Arsanjan Branch, Arsanjan, Iran, Email: z.rezaei2549@gmail.com*

Background: Polycystic ovarian syndrome (PCOS) is a common, multi-genetic endocrine pathology associated with hyperandrogenism, ovarian dysfunction, and insulin resistance. Most investigators have found that 30-50% of PCOS women are obese. obesity plays a role in insulin resistance and hyperinsulinemia. The uncoupling protein (UCP-2) and sirtuin1(SIRT1) genes are important genes known to have a strong association with obesity and insulin resistance. Thus, the aim of this study was to assess the role of UCP-2 45bp ins/del and SIRT-1 rs7895833 polymorphisms in the susceptibility of polycystic ovary syndrome.

Methods: This case-control study was performed on 274 patients with PCOS and 182 healthy women as a control group. Genotype determination was done by PCR(for UCP-2 45bp ins/del) and T-ARMS PCR(for SIRT1 rs7895833).

Result: Our finding showed positive association between SIRT1 rs7895833 gene polymorphism and risk of PCOS but no association was found between UCP-2 45bp ins/del gene polymorphism and risk of PCOS (OR:0.80, %95CI:0.57-1.08, P=0.14).

Conclusion: Results showed that in the dominant model for G allele (AG+GG vs. AA), AG+GG genotypes in SIRT1 rs7895833 gene polymorphism were associated with the risk of PCOS (OR:2.01, %95CI:1.32-3.24, P=0.002). So, G allele in SIRT1 rs7895833 polymorphism increased the risk of PCOS.

Keywords: Obesity, Polymorphism, SIRT1, UCP-2, PCOS

P278: Association of rs10954213 polymorphism in IRF5 gene with idiopathic recurrent miscarriage

Rakhshan Amiri [1] , Mahboobeh Nasiri [2]

1- Department of Biology, Islamic Azad University, Arsanjan Branch, Arsanjan, Iran
2- Department of Biology, Islamic Azad University, Arsanjan Branch, Arsanjan, Iran

Corresponding Author: *Rakhshan Amiri, email: rakhshan.amiri@gmail.com*

Background: Idiopathic recurrent miscarriage (IRM) is one of the most common pregnancy complications with the prevalence of 1-3% among pregnant women in reproductive life, which is defined as the occurrence of 2 or more consecutive spontaneous abortions. IRF5 is a transcription factor which influences the expression of IFN-related genes, inflammatory cytokines and the genes involved in apoptosis pathway. There are several polymorphisms in this gene that affect the expression of the gene and increase the cytokines function in immunologic and inflammatory responses. The purpose of this study was to assess the association of the rs10954213 polymorphism in 3'UTR of the gene with the risk of idiopathic recurrent miscarriage.

Methods: Totally, 176 women with the experience of at least two idiopathic miscarriages (mean age 34.2±10.9) and 173 healthy women as a control group (mean age 56.5±7.7) without any abortion and at least two live births were enrolled in this case- control study. Genotyping was done using T-ARMS PCR.

Result: The results showed a significant association between the minor allele (G) with the decreased risk of the IRM. The frequency of the G allele in controls and patients was 30% and 23%, respectively. Carriers of the G allele (GG+AG vs. AA) also showed a protective role against the IRM (p=0.07, OR: 0.45, 95% CI: 0.22- 0.91).

Conclusion: It can be concluded that rs10954213 G allele may act as a dominant allele and it reduces the risk of IRM and can be considered as a marker in prognosis of IRM.

Keywords: Abortion, IRF5, Polymorphism, T-ARMS PCR, Idiopathic recurrent miscarriage

P279: Cytotoxic effect of trichostatin A(TSA) on the ratio of Bax/Bcl-2 and telomerase activity in DU-145 cells

Mostafa Pournourali [1] , Hosein Pourkazem [2] , Majid Akbari Dotapeh Sofla [3] , Mostafa Yousefi [4] , Bahram Torkan [5] , Behnoush Hamzeh Moghaddam [6]

1- Department of Biology, Faculty of Sciences, University of Guilan, Iran
2- Quality control Department, Microbiology Laboratory, Pharmaceutical Sobhan Oncology, Rasht, Iran
3- Department of Biology, Faculty of Sciences, University of Guilan, Iran
4- Department of Biology, Faculty of Sciences, University of Guilan, Iran
5- Quality control Department, Microbiology Laboratory, Pharmaceutical Sobhan Oncology, Rasht, Iran
6- Department of Biology, Faculty of Sciences, University of Guilan, Iran

Corresponding Author: *Department of Biology, Faculty of Sciences, University of Guilan, Iran, email: mostafapournourali@yahoo.com*

Background: Trichostatin A (TSA), a drug that inhibits the mammalian histone deacetylase, has been demonstrated to have cytotoxic effects on many types of cancer cells. DU-145 is one of the prostatic cancer cell lines in which TSA effects have not been studied so far. The aim of this study was to investigate the cytotoxic effects of TSA on DU-145 prostate cancer cell line.

Methods: DU-145 cells were cultured in RPMI 1640 medium at 370C in humidified condition of 95% and 5% CO2 incubator. Then, cells were transferred to 9 plates with various concentrations of TSA (0-32 mM) and were treated for 72 hours. Telomerase activity was determined by TRAP assay method, also Bax and Bcl-2 protiens concentrations were determined by ELISA method.

Result: The cytotoxic effects of different concentrations of TSA on DU-145 were observed as a reduction of telomerase activity and altered the expression of Bax/Bcl-2 ratio. Also, results showed, there were significant differences between telomerase activity in Bax/Bcl-2 (P=0.001).

Conclusion: The current study demonstrated that TSA can reduce DU-145 cell viability by reducing telomerase activity and increasing the rate of Bax/Bcl-2. It is concluded from this study that TSA can be used as an anti-cancer drug for prostrate cancer cell line through inhibition of telomerase activity and induction of apoptosis.

Keywords: Bax, Bcl-2, DU-145, Telomerase activity, TSA

P280: Checking miRNA in the early detection of sterility and testicular tumors: a systematic review on the role of miRNAS and their changes in sterility and testicular tumors

Sara Aghakhani [1]

1- Lorestan University of Medical Sciences, Khorramabad, Iran

Corresponding Author: *Lorestan University of Medical Sciences, Khorramabad, Iran, email:sara.aghakhanibiochemy@gmail.com*

Background: Spermatogenesis is a complex process in humans. This process needs to power coordination between somatic cells and germ cells so defect in this harmony leads to sterility. Testicular tumors are one of the reasons for this harmony disturb and testicular germ cell tumors (GCTs) represent the most frequent malignancy among men. Therefore, the goal of this study was to identify specific and sensitive biomarkers for early prediction of testicular tumors. miRNAs are a class of small non-coding RNA that caused cell differentiation, adhesion, migration, apoptosis and angiogenesis are regulated During the growth of the placenta and their potential use as biomarkers in various cancer types because some of these molecules are expressed in cancer tissues

Methods: The articles about recent research focused on miRNA for early detection of testicular tumors were searched in internet. Online electronic databases including Goolgle Scholar, PUBMED and SCOPUS were used. All the original papers, review articles and abstracts were searched and 428 articles were found. The articles that were not associated with the topic were omitted and a total of 15 articles with direct association with our topic were discussed in this article.

Result: After searching the websites, 428 articles were found , of which 15 were examined. It was concluded that the role of miR-371-3 , miR-301, miR302 and miR-19a in testicular tumors and miR-19b is beneficial to predict sterility .

Conclusion: This review summarized the current knowledge at different bases to investigate the relationship between miRNA and testicular tumors and sterility. The analysis of miRNA expression in testicular tumors showed overexpression in miR-371-3 , miR-301, miR302 and miR-19a . These reports indicate raising the possibility of using miR-371-3 , miR-301, miR302 and miR-19a as new biomarkers in these disease and miR-19b was introduced as a biomarker for the diagnosis of idiopathic sterility. As a result, miRNAs can be used in detection and diagnosis and treatment of sterility and testicular tumors in men's problems

Keywords: Diagnosis, Infertility, Testicular tumors, miRNA

P281: A Common transition in methionine synthase gene and male infertility: a case-control study and a meta-analysis

Mohammad Karimian [1] , Abasalt Hosseinzadeh Colagar [2]

1- Department of Molecular and Cell Biology, Faculty of Basic Sciences, University of Mazandaran, Babolsar, Iran
2- Department of Molecular and Cell Biology, Faculty of Basic Sciences, University of Mazandaran, Babolsar, CP: 47416-95447

Corresponding Author: *Department of Molecular and Cell Biology, Faculty of Basic Sciences, University of Mazandaran, Babolsar, Iran, email: mdkarimian@gmail.com*

Background: Methionine synthase (MTR) is a key enzyme in folate metabolism pathway which has a crucial role in DNA synthesis and methylation reactions. The aim of this study was to investigate the association of MTR-A2756G polymorphism with idiopathic male infertility which followed by an in silico- analysis.

Methods: The blood samples were collected from 110 idiopathic infertile men and 105 healthy control from Iran. The A2756G genotyping was performed by PCR-RFLP. The effects of this substitution on structure of the protein were evaluated by bioinformatics tools.

Result: Our case-control study revealed the association of AG genotype (P= 0.02), GG genotype (p= 0.01), and G allele (p= 0.001) with male infertility. Also, protein structural analysis of this transition revealed a significant effect on MTR function (with score: 38; expected accuracy: 66%).

Conclusion: Based on study, we suggest that A2756G substitution might be a genetic risk factor for idiopathic male infertility.

Keywords: Bioinformatics, Genetic polymorphism, Methionine synthase, Male infertility

P282: The association of angiopoietin2 gene polymorphism and in vitro fertilization and embryo transfer outcome

Farhad Mashayekhi [1] , Negar Ajabi [1] ,Mostafa Ashrafi Osalou [2]

1- Department of Biology, Faculty of Sciences, University of Guilan, Rasht, Iran
2- Mehr Infertility Institute, Rasht, Iran

Corresponding Author: *Negar Ajabi, Email: negar.ajabi@gmail.com*

Background: In in vitro fertilization (IVF), the eggs are fertilized in the laboratory. The success of IVF depends on the implantation and angiogenesis. Angiogenesis is crucial to successful implantation and decidualization. It is suggested that Angiopoetin-2 (Ang-2 or ANGPT2) may play an important role in the cross-talk between blastocyst and maternal endometrium during the process of embryo implantation. ANGPT2 acts as a natural antagonist of the endothelial cell–specific receptor tyrosine kinase (Tie-2). A functional single-nucleotide polymorphism (SNP) in the ANGPT2 245G>A gene is known to influence gene expression in an allele-specific manner. The aim of this project was to study the effect of angiopoietin-2 gene polymorphism on IVF-ET outcome in the population of north of Iran.

Methods: A total number of 200 blood samples were collected and this case control study was comprised of infertile patients (n=100) and women having one healthy child as controls (n= 100). The genomic DNA was extracted from the whole blood by using DNA extraction techniques. DNA samples were analyzed by Allele-specific polymerase chain reaction (AS-PCR). Statistical analysis was done using the 2-test and the Med Calc version 12.1.4. Differences were regarded significant at P

Result: We calculated a significant difference in the genotype and allele frequencies between two groups for the investigated SNP. Changes in the genotype and allele frequencies were seen between the groups.

Conclusion: It is concluded that ANGPT2 G245A polymorphism may be associated with IVF-ET outcome in a population in the north of Iran.

Keywords: Angiopoetin-2, In vitro fertilization, Polymorphism, Tie-2, Angiogenesis

P283: Correlation among HIF-1 and p53 mutation in endometrial carcinoma

Leila Kafshdooz [1] , Taiebeh Kafshdooz [2] , Ali Dastranj [3]

1- Women's Reproductive Health Research Center, Department of Medical Genetics, 2Faculty of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran
2- Women's Reproductive Health Research Center, Department of Medical Genetics, 2Faculty of Medicine, Tabriz University of Medical
3- Women's Reproductive Health Research Center, Department of Medical Genetics, 2Faculty of Medicine, Tabriz University of Medical

Corresponding Author: *Leila Kafshdooz, Women's Reproductive Health Research Center, Department of Medical Genetics, 2Faculty of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran Sciences,Email: leilakaf@gmail.com*

Background: Endometrial cancer is the most common gynecologic malignancy. Women who do develop uterine cancer during these years will face fertility challenges. Infertility can result from many different uterine cancer treatments. Identifying the role of molecular factors may yield indicators for accurate training of the patients with different disease progression and for designing individualized treatment plans. Tumor suppressor p53, which shows many similarities to HIF-1 in terms of protein control by degradation, is predominantly involved in adaptation of cells to genotoxic stresses.

Methods: 75 patients with endometrial carcinoma and 75 patients who underwent hysterectomy for non tumoral indication were selected for evaluation of HIF-1 1772 C/T polymorphisms and mutations in exon 4 of the p53 gene by PCR-RFLP and sequencing.

Result: For the 1772 C/T polymorphism, the analysis showed that the T allele and genotype TT were significantly associated with endometrial cancer risk. In the recent study, the rate of homozygote genotype of pro/pro or Arg/Arg in high grade group was higher in comparison with low grade one. In addition samples that were undigested in RFLP, showed mutation in exone 4.

Conclusion: Our results suggest that the C1772T polymorphism of the HIF-1a may be associated with endometrial cancers and high grade endometrial carcinomas are highly associated with TP53 polymorphisms in comparison with low grades. Our results indicate that in endometrial carcinoma, no functional link exists between p53 and HIF1-a.

Keywords: Cancer, Endometrial, HIF1A, P53

P284: Evaluation of relation between rs16826658 of WNT4 gene and endometriosis in Iranian population

Boshra Dehghani Mahmoodabadi [1] , Ehsan Zare Mehrjardi [2] , Seyed Morteza Seifati [3]

1- Medical Biotechnology Research Center, Ashkezar Branch, Islamic Azad University, Ashkezar, Yazd, Iran.
2- Medical Biotechnology Research Center, Ashkezar Branch, Islamic Azad University, Ashkezar, Yazd, Iran.
3- Medical Biotechnology Research Center, Ashkezar Branch, Islamic Azad University, Ashkezar, Yazd, Iran.

Corresponding Author: *Seyed Morteza Seifati, Email: seifati@gmail.com*

Background: Endometriosis is clinically defined as the presence of endometrial-like tissue found outside the uterus, resulting in a chronic, inflammatory reaction. It is a complex disease that is influenced by genetic and environmental factors. Several candidate genes have been implicated in the pathogenesis of endometriosis, including genes involved in inflammation, cell cycle regulation, growth factors, hormone receptors and adhesion molecules. Recently, some genome-wide association studies have demonstrated an association between endometriosis and markers located in or near to Wingless- type MMTV integration site family member 4 (WNT4) gene. This gene is expressed in human endometrium during both the proliferative and secretory phases and it is critical for development of the female reproductive tract. WNT4 is a strong candidate for functional changes increasing risk for endometriosis and ovarian cancer.

Methods: Ninety endometriosis patients and 64 healthy controls were enrolled in this study. DNA was extracted from whole blood samples . PCR-RFLP technique was used to investigate the relationship between endometriosis and rs16826658 [G/T] polymorphism on WNT4 gene in Iranian population.

Result: Distribution of genotypes was not significantly different between case and control groups (p = 0.256). Frequencies of the TT, GT and GG genotypes were 32.8%, 42.2%, 25% in patients and 37.8%, 47.8%, 14.4% in controls, respectively.

Conclusion: Our results provide no evidence of a relationship between the rs16826658 polymorphism and susceptibility to endometriosis in Iranian patients. However, these findings should be confirmed in studies with larger sample sizes.

Keywords: Endometriosis, Infertility, Polymorphism, WNT4

P285: Association of H2BFWT gene with male infertility

Atieh Rafatmanesh [1] , Hossein Nikzad [2] , Mohammad Karimian [3] , Alireza Ebrahimi Ebrahimi [4] , Zeinab Rezazadeh lavvaf [5]

1- Basic Science Research Center, Kashan University of Medical Sciences, Isfehan, Kashan, Iran
2- Basic science research center، Kashan University of medical science, Isfehan, Kashan, Iran
3- Basic science research center، Kashan University of medical science, Isfehan, Kashan, Iran
4- Basic science research center، Kashan University of medical science, Isfehan, Kashan, Iran
5- Basic science research center، Kashan University of medical science, Isfehan, Kashan, Iran

Corresponding Author: *Atieh Rafatmanesh, Basic Science Research Center, Kashan University of Medical Sciences, Isfehan, Kashan, Iran, Email: rafatmanesha@yahoo.com*

Background: Infertility is defined as an unsuccessful attempt to conceive after one year of regular unprotected sexual intercourse. As more than 15% of couples suffer from infertility, it can be concluded that aging can affect this disorder. Histones are a group of proteins that are responsible for chromatin compaction and DNA packaging in eukaryotic cell nuclei and play a fundamental role in spermatogenesis. H2BFWT gene (The H2B family, member W, testis specific) is a gene family of histone H2 and while it is located on the X chromosome (Xq22.2), this histone is testis specific and is associated with spermatogenesis. In this study, we examined the association between rs7885967 and rs553509 SNP in the H2BFWT gene in infertile men.

Methods: In a case-control study, blood samples were collected from IVF centres in Kashan (Iran). 140 samples were from infertile men and 179 were from controls. Two single nucleotide polymorphisms of the H2B genotype were detected using polymerase chain reaction–restriction fragment length polymorphism.

Result: The results of our study in a population with infertility showed that the frequency of allele −9C>T and 368A>G from H2BFWT gene in men with azoospermia and oligozoospermia were significantly higher in comparison with control group.

Conclusion: H2BFWT genes involved in spermatogenesis may affect the parameters and count of sperm. In addition, our data has revealed an association of SNPs 368A>G and −9C>T in H2BFWT gene with idiopathic male infertility and therefore H2BFWT genes may increase the risk of male infertility but a study with larger groups of participants is needed to confirm our results.

Keywords: H2BFWT gene, Male infertility

P286: Linkage between epigenetic and male infertility

Ghazaleh Arabzadeh

Corresponding Author: *Ghazaleh Arabzadeh, No. 4, Valiasr St. Lenjan, Isfahan, Iran, email: ghazaleharabzadeh11@gmail.com*

Background: Here, we tried to find out the relation of epigenetics and reproduction system. This relation can happen mainly because of next generation effects which are related to any epigenetic cure on either man or woman gametes. It means that, when we are applying some epigenetic solution, it would definitely have some effects on next generation reproduction ability. At this subject we only talk on male reproduction system in different levels. On the other hand it is noticed that some other factors such as environment and parents life style could affect the next generation reproduction system.

Methods: A review of 25 researches which published since 2011 till 2015 from" pubmed" and "scopus" was included in this study.

Result: In this research, we well understood any sort of deviation in proper function of the male gamete would have serious effect on reproduction system on four different parts. It is advised to be searched and

worked by more scientists concerning similar topics to get clearer results.

Conclusion: As evidenced by the large amount of studies carried out in this field, epigenetic mechanisms play a key role in the proper function of the male gamete, and alterations in these mechanisms can widely affect human reproduction. The effect of epigenetic modification of sperm gene function can affect the reproductive outcome in at least four different levels: (1) impairment of male fertility due to alterations in sperm number and morphology; (2) alterations of embryo development; (3) poor outcome of the ART protocols; and (4) risk of pathologies in the adulthood for the offspring.

Keywords: Antioxidant genes, Male infertility, Male reproduction system

P287: Gene expression analysis of the histone variant H1t in testis tissues of infertile men

Arezoo Ebrahimi pour basabi [1] , Raha Favaedi [2] , Maryam Shahhoseini [3] , Mohammad Ali Sadighi Gilani [4]

1- Department of Molecular Genetics, Faculty of Basic Sciences and Advanced Technologies in Biology, University of Science and Culture, Tehran, Iran 2.Department of Genetics, Reproductive Biomedicine Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran
2- Department of Genetics, Reproductive Biomedicine Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran
3- Department of Genetics, Reproductive Biomedicine Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran
4- Department of Andrology, Reproductive Biomedicine Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran

Corresponding Author: *Arezoo Ebrahimi pour basabDepartment of Genetics, Reproductive Biomedicine Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran, Email: arezoo.ebp@gmail.com*

Background: The proper conduct of spermatogenesis process is essential for male fertility. Histones are a family of essential proteins involved in DNA packaging. During normal process of spermatogenesis in sperm chromatin, histones are replaced by testis-specific histone variants. The gene encoding H1t, a testicular variant of histone H1, is expressed during spermatogenesis specially in primary spermatocytes, and facilitate histone to protamine exchanges during maturation of sperm. The aim of this study was to evaluation the relation between expression of H1t gene and male infertility.

Methods: Ethical approval and informed patient consent was gained for the use of tissue samples. Testicular biopsies were collected from 12 infertile men through assisted reproductive techniques (ART) in patients referred to Royan Institute. Based on pathological observations, these samples were classified into the following three subgroups: obstructive azoospermia (as positive control), complete maturation arrest, and Sertoli cell only syndrome (negative control). Expression of H1t gene was analyzed by quantitative real-time PCR.

Result: Results indicated that the expression of H1t gene was significantly decreased in maturation arrest and Sertoli cell only syndrome groups in comparison to obstructive azoospermia patients.

Conclusion: Our finding implies association of failure in expression of H1t testis specific histone variant occurance of male infertility.

Keywords: Male infertility, Spermatogenesis, H1t

P288: The observed methylation level of ICR1 in human blastocysts donated by fertile couples: is it due to assisted reproduction technique (ART) or DNA methylation dynamics of imprinted genes during early embryo development?

Marzieh Derakhshan-Horeh [1] , Farid Abolhassani [2] , Farnoosh Jafarpour [3] , Ashraf Moini [4] , Sayyed Morteza Hosseini [5] , Mohammad Hossein Nasr-Esfahani [6]

1- Department of Anatomy, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran.
2- Department of Anatomy, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran.
3- Reproductive Biomedicine Research Center, Royan Institute for Biotechnology, ACECR, Isfahan, Iran
4- Department of Endocrinology and Female Infertility, Reproductive Biomedicine Research Centre, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran Department of Obstetrics and Gynecology, Faculty of Medicine, Tehran University of Medical Sciences , Tehran, Iran
5- Reproductive Biomedicine Research Center, Royan Institute for Biotechnology, ACECR, Isfahan, Iran
6- Reproductive Biomedicine Research Center, Royan Institute for Biotechnology, ACECR, Isfahan, Iran

Corresponding Author: *Department of Anatomy, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran & Reproductive Biomedicine Research Center, Royan Institute for Biotechnology, ACECR, Isfahan, Iran, email: mh_derakhshan@yahoo.com*

Background: Despite 36 years of passing the conception of the first child through ART, major concern and issues remain about the safety and reliability of these procedures, especially at epigenetic level, which may have an important role in imprinting diseases, including BWS and SRS, thereby, indicating the importance of assessment of the epigenetic status of the embryo, especially the blastocyst. In this study, we assessed the methylation status of imprinting control region 1 (ICR1) in total of 20 blastocysts donated by fertile couples and volunteers' lymphocyte as a control.

Methods: Methylation level of ICR1 (H19/IGF2 DMR) was analyzed by bisulfite treatment and sequencing at 18 CpG sites (CpGs) located in this region.

Result: Results showed that the percentage of methylated CpGs and the proportion of hyper-methylated clones of ICR1 in analyzed blastocysts were 37.35% ± 5.02 and 40.83% ± 6.8, respectively. The corresponding methylation level of peripheral human lymphocytes was 49.62 ± 1.86% and 50%, respectively, that revealed a significantly lower-than-expected methylation of H19 ICR1 in the human blastocyst.

Conclusion: Since in this study, we used high quality embryos that were derived from fertile couples, among different proposition, one possibility is more likely, i.e. methylation status of these regions of imprinting genes in blastocyst is not rigid and may be dynamic. However, ART procedures should be optimized in order to minimize the epigenetic risks.

Keywords: Embryo, Imprinting control region, Methylation dynamics

P289: The assessment of DNA fragmentation in men with varicocele attending infertility treatment center of Jihad Daneshgahi, Qom Branch

Mohamad bagher Masaei manesh [1] , Mohamad kazem Moslemi [2]

1- Department of Biology, Faculty of Basic Sciences, Islamic Azad University Hamedan Branch, Hamedan, Iran
2- Department of Urology, Faculty of Medical Sciences, Qom University of Medical Sciences, Qom, Iran

Corresponding Author: *mohamadmasaei@yahoo.com*

Background: Varicocele is the most common reversible cause of male infertility and 10-15 percent of adult men are affected by it. Varicocele leads to production of less compacted chromatin spermatozoa, so it can be one of the possible reasons to justify the varicocele derived infertility.

Methods: In this study the rate of DNA damage in semen sample of two groups including patients with grade II and III varicocele and normal individuals were assessed using SDFA kit. Moreover, semen parameters such as morphology, count and motility were evaluated in all the participants. Also, the relationship between abortion occurrence , smoking, age and individuals occupation with the varicocele and DNA fragmentation was investigated.

Result: Statistical analysis of obtained data showed that the rate of sperm DNA fragmentation in patients with varicocel was significantly higher than normal group ($p \leq 0.05$). Furthermore, the total count of sperm as well as the count of normal sperms in test group were significantly lower than normal group ($p \leq 0.05$). Unlike the effect of smoking and abortion occurence, age and occupation of participants were not significantly related to varicocel and DNA fragmentation.

Conclusion: It seems that testing of DNA fragmentation is essential for better diagnosis and selection of treatment for male infertility, particularly in patients with varicocele.

Keywords: DNA fragmentation, Infertility, Varicocele

P290: Association of CpG islands methylation of the MTHFR gene promoter region with risk of male infertility

Corresponding Author: *Department of Molecular and Cell Biology, Faculty of Basic Sciences, University of Mazandaran, Babolsar, Iran. Atefeh Rezaeian, E-mail: ahcolagar@umz.ac.ir*

Atefeh Rezaeian [1] , Abasalt Hosseinzadeh Colagar [1], Mohammad Karimian [1]

1- Department of Molecular and Cell Biology, Faculty of Basic Sciences, University of Mazandaran, Babolsar, Babolsar, Iran.

Background: Previous studies indicated that abnormalities in Methylenetetrahydrofolate reductase (MTHFR) may be a risk factor for male infertility, with reduced sperm count. The CpG islands methylation of the MTHFR gene promoter region can be an epigenetic factor involved in protein expression. The aim of this study was to investigate the association of the MTHFR gene promoter methylation with oligospermia men.

Methods: In a case-control design, 30 oligospermic and 30 normospermic healthy men were included in our study. Genomic DNA was extracted from the semen samples by general boiling method. The Epitect Bisulfite kit was used for conversion of unmethylated cytosine to thymine in genomic DNA. After bisulfite treatment, MTHFR gene promoter was amplified by methylation specific PCR (MSP) method using specific primers.

Result: Our data revealed that the fertile and infertile groups were unmethylated and heterogeneous for the MTHFR promoter region. But the frequency of methylation in infertile men was significantly higher than fertile group (p=0.04).

Conclusion: According to the findings, the MTHFR gene promoter can be unmethylated and heterogenous in oligoespermic and normospermic healthy men. But the frequency of MTHFR promoter methylation in infertile men is significantly higher than healthy controls. Therefore, the methylation of MTHFR gene promoter may be an epigenetic risk factor for male infertility which requires more subsequent investigations.

Keywords: DNA methylation, MS-PCR, MTHFR gene, Male infertility

P291: Association of GSTM1 and GSTT1 null genotypes and endometriosis risk in Asian populations

Ali Taravati [1], Kasra Kamali [2]

1- Department of Molecular and Cell Biology, Faculty of Basic Sciences, University of Mazandaran, Babolsar, Iran
2- Department of Molecular and Cell Biology, Faculty of Basic Sciences, University of Mazandaran, Babolsar, Iran.

Corresponding Author: *Department of Molecular and Cell Biology, Faculty of Basic Sciences, University of Mazandaran, Babolsar, Iran, email: kamalikasra@yahoo.com*

Background: Endometriosis is one of the most common and benign gynecologic disorders which leads to infertility in women. It is characterized by stroma and ectopic growth of endometrial tissue outside uterus cavity. Glutathione S-transferase M1 (GSTM1) and Glutathione S-transferase T1 (GSTT1) null genotypes have been suggested to be associated with endometriosis by many epidemiological studies. The aim of this study was to investigate whether the polymorphisms and null genotypes are associated with the susceptibility to endometriosis in Asian populations.

Methods: We investigated GST genes polymorphisms in a large sample size case-control study, and conducted a literature-based meta-analysis. Relevant studies for inclusion were identified after preliminary investigation of research papers published on electronic databases up to February 2016. A total of 13 case–control studies were selected. Data analysis was performed using Comprehensive Meta-Analysis package, version 2. Pooled odds ratios (ORs) with 95% confidence intervals (95% CIs) were calculated by comparing the null genotype with other genotypes using the fixed-effects model.

Result: Overall, the null genotype of GSTM1 and GSTT1 was significantly related to endometriosis risk in Asian populations.

Conclusion: This findings suggest that the GSTM1 and GSTT1 predisposes Asian populations to endometriosis. Further investigations are required to confirm these findings.

Keywords: Glutathione S-transferase M1, Glutathione S-transferase T1, Meta-analysis, Endometriosis

P292: Association between the C677T and A1298C polymorphisms of methylenetetrahydrofolate reductase gene with recurrent spontaneous abortion in the North of Iran

Maede Aghaei

Corresponding Author: *Qaem Alley., Babol Street, Ali square, Qaemshahr, Mazandaran, Iran, email: MAEDE_AGHAEI@YAHOO.COM*

Background: Spontaneous abortion is a pregnancy condition that occurs in 1-2 percent of women in which MTHFR A1298C and C677Tpolymorphism are effective factors in women with spontaneous abortion. In this research, we studied polymorphism association with spontaneous abortion in women living in North region of Iran.

Methods: In this study, a healthy population of 100 women and 60 patients with more than 2 pregnancy losses were selected as control and treatment groups respectively. 5 ml peripheral blood was taken from each woman and DNA was extracted using DNATM kits. Then, MTHFR A1298C and C677T polymorphisms gene were examined using PCR-FRI-P.

Result: CC, CT, and TT genotypes frequency of C677T polymorphism MTHFR gene in treatment group was 60%, 31.6%, and 8.33% respectively, while genotypes frequency in control group was 72%, 24%, and 4% respectively (p=0.0807). AA, AC, and CC genotypes frequency of A1298C and C677T polymorphism MTHFR gene in treatment group was 16.67%, 56.67%, and 26.67% respectively, while genotypes frequency in control group was 60%, 27%, and 13% respectively (P=0.0001).

Conclusion: In the present research, no significant difference was found between C677T polymorphism of MTHFR gene and spontaneous abortion. However, no significant difference was found between MTHFR A1298C and this problem.

Keywords: A1298C polymorphism, C677T poymorphism, Genotype, Polymorphism, Spontaneous abortion, Methylenetetrahydrofolate reductase (MTHFR)

P293: AZF microdeletions of the Y chromosome in idiopathic infertile males from Iran

Majid Hosseinzadeh [1] , Zakiye Nadeali [2] , Peyman Salehi [3] , Nayerossadat Nouri [4] , Mansour Salehi [5]

1- Department of Medical Genetics, School of Medicine, Tehran University of Medical Science,Tehran, Iran
2- Medical Genetics Laboratory, Alzahra University Hospital, Isfahan University of Medical Sciences, Isfahan, Iran
3- Shahid Beheshti Infertility Center, Isfahan, Iran
4- Medical Genetics Laboratory, Alzahra University Hospital, Isfahan University of Medical Sciences, Isfahan, Iran
5- Division of Genetics and Molecular Biology, Medical School, Isfahan University of Medical Sciences, Isfahan, Iran

Corresponding Author: *Division of Genetics and Molecular Biology, Medical School, Isfahan University of Medical Sciences, Isfahan, Iran, email: hosseinzadeh@azh.mui.ac.ir*

Background: AZF microdeletions are recognized as the most frequent genetic cause of male infertility after Klinefelter's syndrome. This study was intended to evaluate the prevalence and nature of microdeletions of AZFa, AZFb, AZFc in idiopathic cases of azoospermia or severe oligozoospermia in Isfahan, Iran.

Methods: A total of 100 infertile males with azoospermia and severe oligozoospermia were screened for Y chromosome microdeletions using 6 markers in the AZF region and polymerase chain reaction (PCR) technique.

Result: AZF microdeletion loci were revealed in 8 (8%) of azoospermic males. Deletions involved AZFa+b+c in three patients, AZFc in one patient, AZFa in one patient, AZFb in two patients and AZFb+c in one patient. The frequency of AZF microdeletions in Iranian azoospermic infertile males is comparable to that observed in other populations was 1%-15%.

Conclusion: The results suggest the importance of AZF microdeletion analysis among infertile males to obtain reliable genetic information prior to employment of assisted reproduction techniques, thus avoiding unnecessary treatment and vertical transmission of genetic defects.

Keywords: Azoospermia, Isfahan, Male infertility, Severe oligozoospermia, Y-chromosome microdeletions

P294: Insuline receptors gene expression and its relationship with the expression of adiponectin receptors in granulosa cells of patients with polycystic ovary syndrome

Rada Dehghan [1] , Massoud Saidijam [2] , Mehdi Mehdizade [3] , Nooshin Shabab [4] , Mahnaz Yavangi [5] , Tayebe Artimani [6]

1- Research Center for Molecular Medicine, Hamadan University of Medical Sciences, Hamadan, Iran
2- Research Center for Molecular Medicine, Hamadan University of Medical Sciences, Hamadan, Iran

3- Cellular and Molecular Research Center, Faculty of Advanced Technology in Medicine, Anatomy Department, School of Medicine, Iran University of Medical Sciences, Tehran, Iran
4- Research Center for Molecular Medicine, Hamadan University of Medical Sciences, Hamadan, Iran
5- Endometrium and Endometriosis Research Center, Hamadan University of Medical Sciences, Hamadan, Iran
6- Endometrium and Endometriosis Research Center, Hamadan University of Medical Sciences, Hamadan, Iran

Corresponding Author: *Tayebeh Artimani, Endometrium and Endometriosis Research Center, Hamadan University of Medical Sciences, Hamadan, Iran,Email: artimani@umsha.ac.ir*

Background: Resistance to insulin has been observed in 50-70% of women with polycystic ovary syndrome(PCOS). The pathogenesis of PCOS is not well understood, but a variety of studies have shown that IR plays a role in the occurrence and development of PCOS. Recent studies showed that reduced adiponectin levels in circulation related to oligo-ovulation or anovulation and hyperandrogenemia in women with PCOS accompanied by obesity and IR. But the exact molecular mechanism by which adiponectin functions is still not known, and its role in the PCOS is unclear either.The aim of this study was to investigate change and association of gene expression of INSR with expression of adiponectin and its receptors in granulosa cells of PCOS and normal women.

Methods: In this study, 44 infertile women ,18-40 years old who underwent oocyte recovery at an IVF clinic were recruited, 22 patients PCOS and 22 women with normal ovulatory function as control group. After collecting follicular fluid from women, isolation of granulosa cells and then purification were performed with MACS (Micro beads conjugated to monoclonal anti-human CD45 antibodies). After RNA extraction to assess gene expression, quantitative real time PCR (qRT-PCR) was performed.

Result: Our result showed the expression of INSR was significantly reduced in the PCOS women compared to the controls (p= 0.04). The expression of INSR in obese women with PCOS (BMI ≥30) was significantly reduced compared to BMI-matched non-PCOS women (p= 0.03). There was a strong positive correlation among Adiponectin and AdipoR2 expression and also insulin receptor expression (r=0.41, p=0.006 and r=0.65, p=0.001, respectively).

Conclusion: In summary, the relationship between adiponectin and insulin resistance suggests that adiponectin potentially can help as a marker for disease risk in PCOS and provide opportunity for earlier intervention.

Keywords: Adiponectin, Adiponectin receptor, Granulosa cell, Polycystic ovary syndrome, Insuline receptor

P295: The relationship between transcript expression levels of nuclear encoded (TFAM, NRF1) and mitochondrial encoded (MT-CO1) genes in single human oocytes during oocyte maturation

Azra Allahveisi [1], Marefat Ghaffari Novin [1] , Elham Yousefian [2]

1- Department of Biology and Anatomical Sciences, Shahid Beheshti University of Medical Science, Tehran, Iran
2- Department of Obstetrics and Gynecology, Isfahan University of Medical Sciences, Isfahan, Iran.

Corresponding Author: *Department of Anatomical Sciences, Faculty of Medicine, Kurdistan University of Medical Sciences, Sanandaj, Iran, email: allavaisie@gmail.com*

Background: In some cases of infertile women , human oocyte failed to be mature when it reached the metaphase II stage. Mitochondria have important role in oocyte maturation. Large number of mtDNA copied in oocytes is essential for providing ATP during the oocyte maturation. The purpose of this study was to identify the relationship between transcript expression levels of the mitochondrial encoded gene(MT-CO1) and two nuclear encoded genes, nuclear respiratory factor 1(NRF1) and mitochondrial transcription factor A (TFAM), using single-cell taqman real-time PCR in various stages of the human oocyte maturation.

Methods: Nine patients, aged 21–35 years, with male factors were selected for ovarian stimulation and ICSI procedures.

Result: There was no significant relationship between the relative expression levels in germinal vesicle (GV) stage oocytes (P>0.05). In contrast, a significant relationship was seen between the relative expression levels of TFAM and NRF1,and the MT-CO1 at the stages of metaphase I (MI) and metaphase II (MII) (P

Conclusion: Human oocyte maturation is associated with the increasing relationship between the transcript expression levels of TFAM and NRF1, and the MT-CO1.

Keywords: Single-cell taqman qPCR, Mitochondrial transcript

P296: Partial AZFc microdeletions (gr/gr) of Y chromosome in infertile males from South West of Iran

Shahryar Khorasani [1] , Raheleh Masoudi [2]

1- Department of Biology, School of Sciences, Shiraz University, Shiraz, Iran
2- Department of Biology, Shiraz University

Corresponding Author: *Shahryar Khorasani, Department of Biology, School of Sciences, Shiraz University, Shiraz, Iran, Email: shahryar.khorassani@gmail.com*

Background: Y chromosome microdeletions may lead to azoospermia or severe oligozoospermia. These microdeletions occur in AZFa, AZFb, and AZFc regions of Y chromosome as partial or complete deletions. Deletions may transmit from infertile fathers to offspring when Assisted Reproductive Techniques (ART) are applied. Moreover, microdeletions in some of these regions make sperm retrieval impossible for intracytoplasmic injection. Therefore, Y chromosome microdeletions screening looks necessary in these cases. Interestingly, the frequency of microdeletions greatly varies in different researches depending on the patient's selection criteria, ethnic background and diagnostic approaches. We have previously determined the frequency of complete microdeletions of Y chromosome in a population of infertile males from South West of Iran. The aim of this study was to investigate the frequency of a partial AZFc (gr/gr) deletion in that population.

Methods: DNA was extracted from peripheral blood of 81 infertile males (severe oligo/azoospermic) and 50 proven fathers and Multiplex PCR was applied to detect the microdeletions. Primers applied for multiplex PCR were selected according the manual from European Academy of Andrology (EAA).

Result: There were 4.9% gr/gr microdeletions among infertile male compared to 2% in controls and 1.2% b2/b3 microdeletions in patients while such a deletion was not detected in controls.

Conclusion: This study may emphasize that screening of gr/gr microdeletions should be carried out for patients with idiopathic severe oligo/azoospermia when they are candidates for intracytoplasmic sperm injection or ART.

Keywords: Azoospermia, Multiplex PCR, Oligozoospermia, AZFc microdeletion

P297: Effects of down-regulation of Oct4 gene on early development of goat embryo

Azadeh Naddafpour [1] , Razieh Habibi [2] , Faezeh Ghazvini Zadegan [3] , Somayeh Ostadhosseini [4] , Mehdi Hajian [5] , Shiva Rouhollahi Varnosfaderani [6] , Nima Tanhaie Vash [7] , Sayed Morteza Hosseini [8]

1- Department of Developmental Biology, University of Science and Culture, ACECR, Tehran, Iran
2- Department of Developmental Biology, University of Science and Culture, ACECR, Tehran, Iran.
3- Department of Cellular Biotechnology at Cell Science Research Center, Royan Institute for Biotechnology, ACECR, Isfahan, Iran.
4- Department of Cellular Biotechnology at Cell Science Research Center, Royan Institute for Biotechnology, ACECR, Isfahan, Iran.
5- Department of Cellular Biotechnology at Cell Science Research Center, Royan Institute for Biotechnology, ACECR, Isfahan, Iran
6- Department of Cellular Biotechnology at Cell Science Research Center, Royan Institute for Biotechnology, ACECR, Isfahan, Iran.
7- Department of Cellular Biotechnology at Cell Science Research Center, Royan Institute for Biotechnology, ACECR, Isfahan, Iran.
8- Department of Cellular Biotechnology at Cell Science Research Center, Royan Institute for Biotechnology, ACECR, Isfahan, Iran.

Corresponding Author: *Azadeh Naddafpour, email: Azadeh_naddaf@yahoo.com*

Background: The failure to establish ESC in domestic species may be due to our inadequate knowledge of basic mechanisms during early embryonic development. A proper understanding of the events leading to inner cell mass (ICM) and trophectoderm (TE) specification could help identify the origins of such developmental failures.In this study, we focused on POU transcription factor and Oct4 has been considered a master transcription factor for pluripotent cell self-renewal during early embryonic development. Oct4 is required in vitro for establishment and maintenance of embryonic stem cells and for reprogramming somatic cells to pluripotency.

Methods: To further understand the roles of Oct4 during the early development of goat embryos, we attempted Oct4 down-regulation by RNA interference. We began by injecting oct4 siRNA into goat IVF zygotes.Injection of specific siRNA resulted in a distinct decrease in Oct4 mRNA in goat embryo until at least the blastocyst stage.

Result: The rate at which blastocysts developed were unchanged compared to noninjected or scramble-injected controls. Embryos lacking Oct4 did not show abnormalities in the number of TE, ICM, or total cells in the blastocyst.

Conclusion: We conclude that Oct4 is not required for blastocyst formation during goat development; nevertheless, it is possible that it is necessary for maintaining ICM and TE integrity which needs more assessment.

Keywords: Down-regulation, Goat embryo, Oct4

P298: A new protocol for treatment of human prostate cancer cell line, utilizing gamma –ray and nano particles

Alireza Shams [1]

1- Department of Anatomy, Faculty of Medicine, Alborz University of Medical Sciences, Alborz, Iran

Corresponding Author: *Alireza Shams, Department of Anatomy, Faculty of Medicine, Alborz University of Medical Sciences, Alborz, Iran, email: arshams_2000@yahoo.com*

Background: Prostate cancer is the second most common cancer among American men and is causing great harm and waste in cost in . Most of prostate cancer treatments are ineffective and lead to male infertility. The purpose of this study was to evaluate the role gamma radiation with silver nano particles in treatment of human prostate cancer cell line in vitro.

Methods: Human prostate cancer cell line DU145 was purchased from Pasture institute. The cells were incubated with DMEM medium (Sigma) and 15% FBS serum (sigma) over a period of 3-5 days. Cells were put on 96 well plates and divided into experimental and control groups. The first experimental group received treatment doses of 2,6,10 gray (Gy) gamma ray and the second experimental group received simultaneous treatment of gamma ray and 53µg/ml silver nano particles. All groups were stained with trypan blue and the outcomes were evaluated by MTT assay and by ELISA reader.

Result: The results showed that using gamma ray and silver nano particles caused a significant decrease in the number of cells in experimental groups compared to control cells. Survival rates of cells with ANOVA test was significant in experimental group of 6 Gy gamma-ray with nano silver treatment in comparison to other experimental and control groups.

Conclusion: Gamma radiation with silver nano particles treatment of DU145 cell line affects Auger electrons which induce DNA damage strands and cell death. These findings may suggest a new strategy for treatment of male reproductive cancers.

Keywords: Cancer, DU145, Nano silver particles, Prostate, Treatment, Gamma-ray

P299: Reduced expression of H1FNT (H1T2) gene in testicular biopsies of infertile men

Mariyeh Jahanbakhsh [1] , Raha Favaedi [2] , Mohammad Ali Sadighi Gilani [3] , Maryam Shahhoseini [4]

1- Department of Molecular Genetics, Faculty of Basic Sciences and Advanced Technologies in Biology, University of Science and Culture, Tehran, Iran 2.Department of Genetics, Reproductive Biomedicine Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran
2- Department of Genetics, Reproductive Biomedicine Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran
3- Department of Andrology, Reproductive Biomedicine Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran
4- Department of Genetics, Reproductive Biomedicine Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran

Corresponding Author: *Maryeh Jahanbakhsh, 1.Department of Molecular Genetics, Faculty of Basic Sciences and Advanced Technologies in Biology, University of Science and Culture, Tehran, Iran 2.Department of Genetics, Reproductive Biomedicine Research Center, Royan Institute for Reproductive Biomedicine, ACECR, Tehran, Iran, Email: mariyehehjahanbakhsh@gmail.com*

Background: Spermatogenesis is a considerable step in male fertility. H1T2 is an histone H1 variant that normally expresses in spermatogenesis. H1T2 gene is needed for proper cell restriction and DNA condensation during the elongation step of spermatogenesis. H1T2 gene is involved in the replacement of histones with protamines during spermiogenesis. The replacement of histones with protamines is an essential step in spermatogenesis. This study aimed to determine expression of H1T2 gene may be associated with male infertility.

Methods: Testicular biopsies were collected from 11 infertile men through assisted reproductive techniques (ART) referred to Royan Institute and consent was

obtained from patients according to local ethical approval. Based on pathological evaluations, these samples were distributed into 3 groups: obstructive azoospermia (positive control), complete maturation arrest and Sertoli cell only syndrome (negative control). Quantitative real-time PCR technique was used to determine the expression of H1T2 gene.

Result: Results showed significant decrease in expression of H1T2 gene in all 2 sample groups with spermatogenesis defect in comparison to positive control.

Conclusion: Our finding implies the association of failure in expression of H1T2 testis specific histone variant occurrence of male infertility.

Keywords: Male infertility, Spermatogenesis, H1T2

P300: Chromosomal aberrations of couples with recurrent spontaneous miscarriage from Isfahan, Iran

Zakiye Nadeali [1] , Amin Izaditabar [2] , Mansour Salehi [3] , Elahe Zarean [4] , Majid Hosseinzadeh [5]

1- Medical Genetics Laboratory, Alzahra University Hospital, Isfahan University of Medical Sciences, Isfahan, Iran
2- Medical Genetics Laboratory, Alzahra University Hospital, Isfahan University of Medical Sciences, Isfahan, Iran
3- Medical Genetics Laboratory, Alzahra University Hospital, Isfahan University of Medical Sciences, Isfahan, Iran
4- Department of Obstetrics and Gynecology, Isfahan University of Medical Sciences, Isfahan, Iran
5- Department of Medical Genetics, School of Medicine, Tehran University of Medical Science,Tehran, Iran

Corresponding Author: *Department of Medical Genetics, School of Medicine, Tehran University of Medical Science,Tehran, Iran, email: z.nadeali67@yahoo.com*

Background: Spontaneous abortion affects approximately 15-20% of clinically recognized pregnancies. Chromosomal abnormalities, mainly balanced rearrangements, are common in couples with recurrent spontaneous abortions. This study was conducted to evaluate the frequency and contribution of chromosomal anomalies and heteromorphisms in couples experiencing recurrent pregnancy loss (RPL) from Isfahan, Iran.

Methods: A total of 100 couples with two or more spontaneous abortions were included. Both partners were karyotyped using G-banding according to standard cytogenetic methods.

Result: Chromosomal aberrations were found in 18 individuals (18%). The prevalence of chromosomal abnormalities was as follows: 4 (4%) balanced reciprocal translocations, 4 (4%) pericentric inversions, one case (1%) with 47,XXX karyotype and 9 (9%) with some kinds of heteromorphic variants including 9qh+, Yqh+, 1qh+, 16qh+.

Conclusion: These findings confirm the importance of cytogenetic analysis for an accurate approach to elucidate the causes of repeated miscarriages, and suggest that such studies should be considered after two spontaneous pregnancy losses.

Keywords: Chromosomal abnormality, Heteromorphism, Isfahan, Translocation, Recurrent abortion

P301: The role of proteomics in male infertility

Elaheh Shams [1] , Dina Zahrabi [2]

1- Young Researchers and Elite Club, Falavarjan Branch, Islamic Azad university, Isfahan, Iran
2- Nourdanesh Institute of Higher Education, Meymeh, Isfahan, Iran

Corresponding Author: *Elaheh Shams, Young Researchers and Elite Club, Falavarjan Branch, Islamic Azad university, Isfahan, Iran, Email: e.shams88@yahoo.com*

Background: The progress of science, especially in the field of reproduction and fertility has been of interest to scientists. In general, one in every four couples in developing countries had been found to be affected by infertility and 50% of cases can be due to men disorders. Male infertility causes are different, but it seems molecular factors play an important role in male infertility.

Methods: In this review article, the terms male infertility, proteomics, biomarkers were used to search for the articles and the documents about the role of proteomics in male infertility. We performed an electronic literature search of NCBI, MEDLINE, Science Direct, Scopus, Google scholar, from 1999 up to December 2015.

Result: The initial step in the evaluation of an infertile male is semen analysis and then progress testing has been used such as measurement of Reactive Oxygen

Species, total antioxidant capacity, DNA fragmentation, DNA compression and apoptosis .In addition, specialized techniques such as proteomics can be utilized to identify semen parameters at the molecular level. In recent years, proteomics analysis is one of the important methods for the study of protein expression and function to understand the biological pathways that play a major role in male infertility.

Conclusion: Proteomics technologies may identify new biomarkers for early detection of disease and can help scientists and researchers to develop drugs. In this paper,we discussed about male infertility, its causes, diagnostic tests, role of proteomics, using it to evaluate and compare the package seminal plasma protein among fertile and infertile men and men with different diseases and biomarkers of male infertility.

Keywords: Biomarkers, Proteomics, Male infertility

P302: Evaluation of the effects of varicose ovarian vein on gene expression of Hsp70 and Caspase-3 and gonadotropin hormones in ovaries of adult rat

Leila Heydari [1]

1- Tehran University of Medical Sciences, Tehran, Iran

Corresponding Author: *Tehran University of Medical Sciences, Tehran, Iran, email: leilaheydari136@yahoo.com*

Background: Several theories have been suggested to explain the relationship between varicocele and infertility. Reproductive failure associated with heat stress is a well-known phenomenon so the aim of this study was to determine whether varicocele can cause changes in the levels of gonadotropin hormones (LH and FSH), expression of HSP-70 and Caspase-3 (as a major executioner protease) in ovaries of female rats.

Methods: In each experimental study, 15 weaning age female rats were divided into 3 groups: Unilateral Varicose Vein (A), Sham (B) and Control(C) groups. LH and FSH hormones levels and gene expression of HSP-70 and Caspase-3 were evaluated after 60 days in proestrus stage. The groups were compared statistically using RT-PCR and enzyme-linked immunosorbent assay (ELISA) methods.

Result: After 2 months, our results showed that hormone levels decreased significantly in group A when compared to other groups (P≤0.05). There were no statistical differences recorded between the control and sham groups. In group A there was significant increase in gene expression of caspase-3 when compared to other groups and decrease in gene expression of HSP-70 when compared to group B and group C. There was no significant difference in the gene expression of Caspase-3 and HSP-70 among the groups on the right side as no varicocele was induced on the right side.

Conclusion: Our study shows that induced unilateral varicocele leads to decreased hormonal regulation of FSH and LH and significant reduction in gene expression of HSP-70 and Caspase-3 which may lead to infertility in women.

Keywords: Caspase-3, Hsp70, LH and FSH hormones, Female varicocele

P303: Noggin, rather than SB, increases pluripotency gene expression in the ovine blastocyst

Mehdi Hajian [1] , Mohammad hossain Nasr esfahani [2]

1- Department of Reproduction and Development, Reproductive Biomedicine Center, Royan Institute for Biotechnology, ACECR, Isfahan, Iran
2- Department of Reproduction and Development, Reproductive Biomedicine Center, Royan Institute for Biotechnology, ACECR, Isfahan, Iran

Corresponding Author: *Department of Reproduction and Development, Reproductive Biomedicine Center, Royan Institute for Biotechnology, ACECR, Isfahan, Iran, email: mehdihajian2002@gmail.com*

Background: Validated ESC lines in species other than mouse and primates are not yet to be established. Therefore, methods for isolation, proliferation, and differentiation of ESCs from livestock need to be fully established. Recently, the application of chemical inhibitors of signaling pathways such as TGF-superfamily has increased the establishment of ESCs especially in non-permissive mouse strains. The aim of this study was to evaluate the role of SB431542 and Noggin treatment (two inhibitors of TGFβ and BMP4 respectively) in pre-implantation ovine embryos to get efficient ESCs in livestock species.

Methods: Collected COCs underwent in vitro maturation, fertilization, and embryo culture in the

presence or absence of the SB431542 or Noggin in ovine species. Cleavage rate, blastocyst yield, the total cell number and gene expression for REX1, GATA4 and CDX2 as cell lineage markers and OCT4, SOX2 and NANOG as pluripotency markers were evaluated between experimental groups.

Result: In the cleavage stage, there was no difference in SB or Noggin treatment compared with control. However, SB treatment significantly decreased blastocyst rate and total cell number. However, the gene expression didn't show any differences. In contrast, treatment with Noggin significantly increased the total cell number but had no effect on the blastocyst formation rate. At the RNA level, a significant increase was observed in REX1 and OCT4 expression in Noggin treated embryos.

Conclusion: In conclusion, SB did not increase the expression of pluripotency genes while Noggin could increase total cell number and expression of pluripotency genes in ovine and may have implication for establishment of ESC in the ovine spices.

Keywords: Blastocyst, Noggin, SB431542, Ovine

P304: Impact of prunus cerasus on fertility outcome and genes involved in cumulus expansion

Fatemeh Namvar vansofla

Corresponding Author: *Fnamvar69@yahoo.com*

Background: Infertility is an inability of couples that don't have pregnability after one year of unprotected regular intercourse. It has been reported that about %10 -%15 of young couples suffer from infertility. There is evidence that antioxidants improve the fertility. Anthocyanins of Prunus cerasus contains strong antioxidant activity. The aim of this study was to evaluate Prunus cerasus effects on outcome of the in vitro fertilization rate and genes involved in cumulus expansion.

Methods: 60 female and 15 male adult mice were used for mating and IVF (in vitro fertilization). Prunus cerasus extraction was added to the diet of female mice for 30 days. Ovulation induction and oocytes collection were done as routine. The cumulus cells were dissected apart, and the expression of progesterone receptor and HAS2 was detected using RT-PCR (real-time polymerase chain reaction). Fertilization rate was evaluated by IVF. All data were analyzed using t-test.

Result: Data showed that expression of progesterone receptor and HAS2 in cumulus cells of mice that received prunus cerasus increased. Moreover, oocyte fertilization rate also increased significantly.

Conclusion: Prunus cerasus as an antioxidant natural can become an important medication for improving oocyte quality and it opens new opportunities for infertility treatment. It is concluded that Prunus cerasus consumption could improve fertility rate by increasing progesterone receptor and HAS2 activity in cumulus cells.

Keywords: HAS2, Infertility, PGR, Prunus cerasus, Cumulus cells

P305: Cytogenetic and molecular studies of Y chromosome microdeletions in AZFa, AZFb and AZFd regions in infertile men with azoospermia and oligozoospermia in Northwest of Iran

Maryam Sabour [1] , Yadollah Ahmadi Asr Badr [2] , Seyed ali Rahmani [3]

1- Department of Molecular Biology, Faculty of Basic Sciences, Ahar Branch, Islamic Azad University, Ahar, I. R. Iran.
2- Department of Andrology, Tabriz University of Medical Sciences, Iran
3- Department of Molecular Biology, Faculty of Basic Sciences, Ahar Branch, Islamic Azad University, Ahar, I. R. Iran.

Corresponding Author: *Maryam SAbour, Department of Molecular Biology, Faculty of Basic Sciences, Ahar Branch, Islamic Azad University, Ahar, Iran, Email: mls.sabour@yahoo.com*

Background: Chromosome abnormalities evaluation and Y chromosome microdeletions screening prior to assisted reproduction have an important role in preserving future generations of genetic risks. Genetic factors involved about 15% of male infertility. Azoospermia factors of Ychromosome (AZFa, AZFb, AZFc, AZFd) are very important for spermatogenesis. The aim of this study was to establish the prevalence of chromosomal abnormalities and microdeletions on Yq chromosome in infertile men with azoospermia and oligozoospermia in Northwest of Iran.

Methods: A total of 50 infertile males (45 were azoospermic, 5 oligospermic) were studied for the cytogenetic evaluation and molecular AZF screening. Karyotyping was performed on peripheral blood lymphocytes according to standard methods. Multiplex PCR assay by using 12 Y-specific sequence-tagged sites(sY152,sY84, sY81, sY87, sY90, sY182, sY121, sY143, sY130, sY133, sY128, sY14) of AZF region was performed to screen the microdeletions in the AZF region of Y chromosome.

Result: Of 50 cases, 48 had normal karyotype (46,XY) and chromosomal abnormalities were found to be 4% (2/50), including one patient with Klinefelter syndromes and one of the azoospermia patients with robertsonian translocations der (13;15). The deletions of Y chromosome were seen in three patients (6%) with features of normal karyotype and azoospermia. In one azoospermia patient , microdeletion in the AZFd region (sY152) was seen and in two of the azoospermia patients in the AZFb(sY143) region, it was observed. No AZFa microdeletions were detected.

Conclusion: Y-chromosome microdeletion analysis can be recommended as an important molecular test among infertile males to obtain reliable genetic information before the administration of assisted-reproductive techniques.

Keywords: Azoospermia, Azoospermia factor, Oligozoospermia, Y chromosome microdeletion, Chromosomal abnormality

P306: Association of Arg194Trp polymorphism of XRCC1 with polycystic ovarian syndrome in Guilan province

Samira Marzband [1] , Zivar Salehi [2]

1- Department of Biology, University of Guilan, Rasht, Iran
2- Department of Biology, University of Guilan, Rasht, Iran

Corresponding Author: *Samira Marzband, Department of Biology, University of Guilan, Rasht, Iran, Email: samira_marzband@yahoo.com*

Background: Polycystic ovarian syndrome (PCOS) is a complex and multifactorial disorder believed to be the consequence of a complex interaction between genetic, immunological, and environmental factors. The main aim of this study was to investigate the association of Arg194Trp single nucleotide polymorphism (SNP) of X-ray repair cross-complementing group 1 (XRCC1) with the susceptibility to PCOS in Guilan province.

Methods: In this case-control study, the genotype and allele frequencies of Arg194Trp were examined by polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP) based on a Guilanian population consisting of 50 women with PCOS and 72 healthy women. Statistical analysis was performed using the MedCalc software (vergen12).

Result: According to our results, compared with Arg/Arg genotype, the Arg/Trp and Arg/Trp+ Trp/Trp genotypes, a significant association with an increased risk of PCOS (OR=3.57; 95%CI 1.01-12.67, P=0.048), (OR=5.36; 95%CI 1.61-17.80, P=0.006), respectively was found. In addition, the Trp allele frequency was significantly higher in patients than in controls (OR=6.66; 95%CI 2.15-20.60, P=0.001).

Conclusion: In conclusion, Arg194Trp polymorphism of XRCC1 gene can be associated with PCOS and Gln allele might be a risk factor of PCOS in this sample population. Larger population and different ethnicity-based studies are required to achieve a definitive conclusion.

Keywords: DNA Repair, Polycystic ovarian syndrome, Polymorphism, XRCC1, BER

P307: Evaluation of genetic variations of GDF9 and ALK5 genes in Iranian infertile women

Mona Amiri Bahmanshiri [1] , Seyed Mohammad Moshtaghiun [2] , Ali Falahati [3]

1- Biology Department, Faculty of Science, Yazd University, Yazd, Iran
2- Biology department, Faculty of science, Yazd University, Yazd, Iran.
3- Biology department, Faculty of science, Yazd University, Yazd, Iran.

Corresponding Author: *Mona Amiri, Email: mona.amirib1368@yahoo.cm*

Background: Polycystic ovary syndrome (PCOS) is a heterogeneous endocrine disorder found in 5 % of women of reproductive age and accounts for about 90–95 % of patients with anovulatory infertility. This syndrome presents defects in primary cellular control mechanisms that result in the expression of

hyperandrogenism and polycystic ovaries. Growth differentiation factor-9 (GDF9) is an ooctye-specific member of the TGFß superfamily and is expressed in human oocytes and plays a fundamental role in ovulation, oocyte maturation and embryo development. Similar to other TGF-ß family ligands, GDF-9 likely initiates signaling mediated by type I such as activin receptor-like kinase (ALK5). Blocking signaling from the ALK5 inhibits GDF9 activity.

Methods: In this study, 60 PCOS women and 60 healthy women as control were selected. After DNA extraction, PCR-SSCP was done and for final confirmation samples with mobility shift were sequenced.

Result: Sequence analysis results did not show any single nucleotide polymorphisms (SNP) or mutation in target region of ALK5 gene in the case or control groups, but 881G>A (rs254286) variation was found in exon 2 of GDF9 gene in 14 patients which was a significant difference (p

Conclusion: This finding indicates that genetic variation 881G>A of the GDF9 gene in Iranian population studied, may be associated with female infertility. Further studies on larger population samples need to be done to confirm this finding.

Keywords: ALK5 gene, Female infertility, GDF9 gene, PCOS

P308: Sheep oocyte expresses leptin receptor mRNA

Seyed Jalil Taheri [1] , Abbas Parham [2]

1- Veterinary Faculty, Ferdowsi University of Mashhad, Mashhad, Iran
2- Department of Basic Sciences, Veterinary Faculty, Ferdowsi University of Mashhad, Mashhad, Iran. 2) Embryonic and Stem Cell Biology and Biotechnology Research Group, Institute of Biotechnology, Ferdowsi University of Mashhad, Mashhad, Iran.

Corresponding Author: *Division of Physiology, Department of Basic Sciences, Veterinary Faculty, Ferdowsi University of Mashhad, Mashhad, Iran, email: parham@um.ac.ir*

Background: Leptin, a product of Ob gene, is originally secreted by adipocytes and is involved in the regulation of food intake, energy metabolism and reproductive functions. There are various evidences regarding the direct effect of leptin on physiological activities of oocyte as well as ovarian function. The aim of this study was to investigate the expression of leptin receptor by reverse transcription - polymerase chain reaction (RT-PCR) analysis in ovine oocytes.

Methods: Ovine ovaries were collected from abattoir and cumulus-oocyte complexes (COCs) were aspirated. Then, COCs were denuded and oocytes immediately were used for total RNA extraction. The complementary DNA was synthesized from isolated RNA and was used for PCR amplification. PCR reaction was performed with cDNA and designed special primers. Ovine beta actin gene was chosen as an internal control and adipose tissue was selected as positive control.

Result: Gel electrophoresis for PCR product confirmed amplification of 121 bp fragment of leptin receptor. So, it was demonstrated that transcript of leptin receptor is expressed in ovine oocyte.

Conclusion: Our findings revealed that leptin might have a direct effect on ovine oocyte function through its receptor which should be investigated.

Keywords: Oocyte, RT-PCR, Sheep, Leptin receptor

P309: Review of the genetic origins of polycystic ovary syndrome

Atefe Abdoli [1] , Alimohamad Ahadi [2] , Maryam Nemati [3] , Hoda Ayat [4] , Mojtaba Emadi [5] , Sanaz Bahadori [6]

1- Faculty of Science, Shahrekord University, Shahrekord, Iran
2- Assistant Professor, PhD of Genetics, Faculty of Science, Shahrekord University, Shahrekord, Iran
3- Assistant Professor, Ginaecologist, Faculty of Medicine, Medical Sciences University, Shahrekord, Iran
4- Assistant Professor, PhD of Genetics, Faculty of Science, Shahrekord University, Shahrekord, Iran
5- Assistant Professor, PhD of Genetics, Faculty of Science, Shahrekord University, Shahrekord, Iran
6- MSc Student, Genetics , Faculty of Science, Shahrekord University, Shahrekord, Iran

Corresponding Author: *Atefe Abdoli, Faculty of Science, Shahrekord University, Shahrekord, Iran atefe.abd@gmail.com*

Background: Infertility is defined as the inability to conceive after one year of regular unprotected intercourse. The polycystic ovary syndrome is one of the factors that causes infertility in women. This syndrome is a common endocrine disorder that is the main reason of anovulation in women. PCOS is a

heterogenic disorder and its prevalence among infertile women is 15 to 20 percent and its prevalence in Iran was 7% based on the NIH criteria, 15.2% under the Rotterdam criteria, and 7.92% accordingto the AES criteria. The aim of this study was to investigate the genetic factors involved in the pathogenesis of the disease.

Methods: For this purpose, Pubmed and Medline were used to identify reports published in sites.

Result: Positive genetic background of the disease has been confirmed in several studies. Several genes, including genes CYP11A, SHBG, IGF, Calpain-10, follistatin, PON1, CYP17 are involved in the pathogenesis of the disease.

Conclusion: It is hoped that by identifying these genes we find new ways to improve the fertility process.

Keywords: CYP11A, IGF, Polycystic ovary syndrome, Genetic basis, Infertility

P310: The relationship between MnSOD A16V gene polymorphism and the risk of idiopathic male infertility in northern Iran

Mostafa Pournourali [1] , Alireza Tarang [2] , Sarah Farzadi Haghighi [3] , Mostafa Yousefi [4] , Mohammad Hadi Bahadori [5] , Hosein Pourkazem [6]

1- Department of Biology, Faculty of Sciences, University of Guilan, Iran
2- Agriculture Biotechnology Research Institute of Iran (ABRII), Branches of north region of Iran, Department of Genomics and Animal, Rasht, Iran
3- Department of Biology, Faculty of Sciences, University of Guilan, Iran
4- Department of Biology, Faculty of Sciences, University of Guilan, Iran
5- Cellular and Molecular Research Center, Faculty of Medical Sciences, Guilan University of Medical Sciences, Rasht, Iran
6- Quality control Department, Microbiology Laboratory, Pharmaceutical Sobhan Oncology, Rasht, Iran

Corresponding Author: *Department of Biology, Faculty of Sciences, University of Guilan, Iran, email: mostafapournourali@yahoo.com*

Background: Male Infertility is a disease of the reproductive system defined by male's inability to cause pregnancy in a fertile female. Both environmental and genetic factors can be involved in male infertility. Manganese superoxide dismutase (MnSOD) is a crucial mitochondrial antioxidant enzyme, that has a key role in cellular defense against agents that induce oxidative stress. The present study was aimed to evaluate the MnSOD A16V gene polymorphism in male infertility in northern Iran.

Methods: Samples were obtained from 180 patients diagnosed with male infertility and 120 controls subjects were genotyped by polymerase chain reaction - restriction fragment length polymorphism (PCR-RFLP) method.

Result: The MnSOD genotype frequencies amongst the 180 cases were A/A=33.3%, A/V=51.6% and V/V=15%; the A and V allele frequencies were 60% and 40%, respectively. The MnSOD genotype frequencies amongst the 120 controls were A/A=25%, A/V=71.6% and V/V=3.3%; the A and V allele were 59% and 41%, respectively. We observed a significant difference in genotype distributions of MnSOD A16V polymorphism between patients and controls (P= 0.0001).

Conclusion: It is suggested that the MnSOD A16V polymorphism may be associated with the risk of male infertility in northern Iran. However, more studies should be considered with larger number of patients and control subjects to confirm our results.

Keywords: Gene polymorphism, MnSOD, Oxidative stress, Idiopathic male infertility

P311: The effect of Syndecan 4 gene polymorphism on in vitro fertilization and embryo transfer

Farhad Mashayekhi [1] , Masumeh Sherafat [1] , Ziba Zahiri [2] , Maryam Asgharnia [2]

1- Department of Biology, Faculty of Science, University of Guilan, Rasht, Iran
2- Cellular and Molecular Research Center, Faculty of Medical Sciences, Guilan University of Medical Sciences, Rasht, Iran

Corresponding Author: *Masoumeh Sherafat, Email: mas_shft@yahoo.com*

Background: In vitro fertilization (IVF) is the process of fertilization in a laboratory, and then transferring the embryo to the uterus. The success of IVF depends upon many factors, the most important being the implantation. Many genes are involved in the process of implantation. Syndecans belong to the group of

heparan sulfate proteoglycans (HSPG). Syndecan-4, a proteoglycan receptor, is a central mediator of cell adhesion, migration and proliferation. All syndecans were shown to be expressed within human endometrium. Syndecan-1 and -4 proved to be significantly upregulated in whole endometrium during the secretary phase. The expression of syndecans has been studied in normal human placenta and in gestational trophoblastic disease. We aimed to analyze the impact of syndecan-4 gene polymorphism on IVF-ET in Iran.

Methods: A total number of 200 blood samples were collected and this case control study was comprised of infertile patients (n=100) and women having one healthy child as controls (n= 100). Genomic DNA was extracted from blood samples. Genotype of allele frequencies of syndecan-4 gene was performed using polymerase chain reaction (RFLP- PCR). Statistical analysis was done using the 2-test and the Med Calc version 12.1.4.

Result: Changes in the genotype and allele frequencies were seen between two groups.

Conclusion: The data of this study suggests that the syndecan gene polymorphism may be associated with IVF-ET result in northern Iran population. Larger studies with more patients and controls are needed to verify the results.

Keywords: Syndecan 4 implantation, Syndecans, Embryo transfer, In vitro fertilization, Syndecan 4

P312: Correlation of methylene tetra hydrofolate reductase gene mutation with risk of polycystic ovary syndrome: a case-control study in west of Iran

Somayeh Reiisi [1]

1- Department of Genetics, Faculty of Basic Sciences, University of Shahrekord, Shahrekord, Iran

Corresponding Author: *Department of Genetics, Faculty of Basic Sciences, University of Shahrekord, Shahrekord, Iran, email: s.reiisi@yahoo.com*

Background: Polycystic ovary syndrome (PCOS) is the most common disorder in endocrine system which is the major cause of ovulatory abnormalities and infertility. PCOS has been identified as a multifactorial disease and can result from environmental and genetic factors. However, the accurate molecular mechanism of PCOS remains unclear. Methylenetetrahydrofolate reductase (MTHFR) is essential for the folate metabolism which is a basic process for cell metabolism in the DNA, RNA and protein methylation. The variation and mutation of this gene reduce the thermo stability of the MTHFR enzyme and numerous studies have shown the association of the MTHFR C677T polymorphism and diseases. Therefore, this study was accomplished to estimate the possible genetic association of functional MTHFR polymorphisms with PCOS in a west Iranian population.

Methods: A case-control study was performed in 150 PCOS women and 150 healthy controls. DNA of all samples was extracted from peripheral blood. MTHFR gene (C677T polymorphism) was identified by PCR–RFLP. Allele and genotype frequencies of SNPs was determined and risk of disease was estimated.

Result: Chi-square analysis showed a correlation between MTHFR C677T polymorphism with PCOS (p = 0.02, OR= 1.84; 95% CI: 1.15-2.94). Frequency of T alleles for C677T variation was 32.5% in PCOS patient and 24.7% in controls (P=0.01). No associations were found for polymorphism and BMI and age.

Conclusion: This study indicates that MTHFR C677T polymorphism seems to affect PCOS risk and likely is involved in PCOS susceptibility in addition to environmental factors, making its potentially useful genetic biomarkers useful for disorder screening.

Keywords: Gene mutation, Iran, Methylene tetra hydrofolate reductase (MTHFR), Polycystic ovary syndrome (PCOS)

P313: Cytogenetic and molecular studies of Y chromosome microdeletions in AZFc region and DAZ gene deletions in infertile men in Northwest of Iran

Leila Sabour [1] , Seyed ali Rahmani [2]

1- Department of Molecular Biology, Faculty of Basic Sciences, Ahar Branch, Islamic Azad University, Ahar, Iran
2- Department of Molecular Biology, Faculty of Basic Sciences, Ahar Branch, Islamic Azad University, Ahar, I. R. Iran.

Corresponding Author: *Leila Sabour, Department of Molecular Biology, Faculty of Basic Sciences, Ahar Branch, Islamic Azad University, Ahar, Iran, Email: ml.sabour@yahoo.com*

Background: Genetic factors involved about 15% of male infertility. Azoospermia factors of Ychromosome (AZFa, AZFb, AZFc, AZFd) are very important for spermatogenesis. Microdeletions in the azoospermia factor regions on the long arm of Y chromosome are mainly associated with spermatogenic defect. We investigated the chromosomal abnormalities, frequency and types of Y-chromosome microdeletions in non-obstructive azoospermic infertile males in our region. The goal of this study was evaluation of Karyotype and frequency of microdeletions in infertile men.

Methods: The study contained 50 infertile males. Chromosome analysis was performed on peripheral blood lymphocytes according to standard method. Multiplex PCR assay for microdeletions was performed by using 10 markers(sY157,sY276, sY274, sY238, sY277, sY255, sY254, sY283, sY283, sY14) of AZF region of Y chromosome.

Result: The total prevalence of chromosomal abnormalities was found to be 4% (2/50), including one patient with Klinefelter syndromes and one of the patient with robertsonian translocations der (13;15). Two of 50 patients(4%) had Y-chromosome microdeletions. One of two patients with Y chromosome microdeletions had deletions in the AZFc regions(sY238, sY274) and one patient with Y chromosome microdeletion had segmental deletion in the AZFc region (sY238).

Conclusion: The occurrence of chromosomal anomalies and Y chromosome microdeletions among infertile males strongly suggests the need for routine genetic testing and counseling prior to employment of assisted reproduction techniques.

Keywords: Azoospermia factor, Infertility, Y chromosome microdeletion, Chromosomal abnormality

P314: Correlation of c-kit mutation and pten mutation in endometrial cancer

Taiebeh Kafshdooz [1] , Leila Kafshdooz [2] , Ali Dastranj tabrizi [3] , Zohreh Razban [4]

1- Women's Reproductive Health Research Center,Tabriz University of Medical Sciences,Tabriz, Iran
2- Women's Reproductive Health Research Center
3- Women's Reproductive Health Research Center
4- Women's Reproductive Health Research Center

Corresponding Author: *Taiebeh Kafshdooz, Women's Reproductive Health Research Center,Tabriz University of Medical Sciences,Faculty of Medical Advanced Sciences, Tabriz, Iran, Email: kafshdoozt93@gmail.com*

Background: Endometrial cancer is the fourth most common cancer among women in developed countries. Affected patients may benefit from systemic chemotherapy, alone or in combination with targeted therapies if the disease is clinically diagnosed prior to expansion and metastasis to other organs. It seems that PTEN and c-kit are the most common mutated gene in the endometrioid subtype. The aim of this study was to evaluate the prognostic role of c-kit mutations and PTEN with tumor type and grade in human uterine endometrial carcinomas.

Methods: Seventy five patients with endometrial carcinoma and seventy five normal controls were studied for possible mutations in exon 17 of the c-kit gene and exon 7 of PTEN gene using single strand conformational polymorphisms and sequencing.

Result: All of the samples were obtained from Iranian patients. 60 % (45 cases) of the tumors were endometriod and 40% (30 cases) were of serous type. c-kit mutation in exon 17 appeared to be significantly different between endometrial carcinoma and normal endometrium. The pattern and frequency of the mutations was also shown to be different between tumors from different stages. But there was not any correlation between c-kit and PTEN mutation in our study population.

Conclusion: Our findings in the present study suggest that exon 7 of PTEN does not play any significant role in the development of endometrial carcinoma in Iranian cases.

Keywords: c-kit and PTEN mutation, Tumor type and grade, Endometrial carcinoma

P315: Inhibin-B is a suitable indicator in male spermatogenesis assessment

Nahid Neamati * [1] , Mojtaba Aliyari [2]

1- Babol university of medical science ,babol, Iran
2- Sahand clinical laboratory. Tehran, Iran

Corresponding Author: *Nahid neamati Babol University of Medical Sciences ,Babol, Iran nahidneamati60@gmail.com*

Background: Infertility is the most popular problem in many countries between couples. Among causes of infertility male factor is significant . Evaluation of serum FSH levels as spermatogenesis indicator is established. Despite its advantages in male reproductive assessment, this hormone can not discriminate between normospermatogenesis and hypospermatogenesis. On the other hand, FSH may affected by GnRH, testosterone and estradiol. Therefore, interpretation of its results is impossible. In our research we focused on inhibin-B on spermatogenesis assessment in some clinical conditions.

Methods: We reviewed texts and published articles from 2000 till 2016 about inhibin-B and related subjects to determine the best biomarker for assessment of spermatogenesis.

Result: Based on literature, we understood that in infertile men regardless of its causes serum inhibin-B decreased And IFR index (inhibin/FSH) and is more reliable bio marker in male infertility assessment.

Conclusion: In conclusion, we decided to assess serum inhibin-B levels in addition to serum FSH level to interpret spermatogenesis status.

Keywords: FSH , IFR index , Infertility, Spermatogenesis , Inhibin-B

P316: Bioinformatics comparsion of leukemia inhibitory factor transcripts: the marker of implantation

Sanaz Bahadori [1] , Ali mohammad Ahadi [2] , Maryam Nemati [3] , Hoda Ayat [4] , Mojtaba Emadi [5] , Atefe Abdoli [6]

1- Faculty of Science, Shahrekord University, Shahrekord, Iran
2- Assistant Professor in molecular Genetics, Faculty of Science, Shahrekord University, Shahrekord, Iran
3- Assistant Professor in ,Ginaecology, Faculty of Medicine, Medical Sciences University, Shahrekord, Iran
4- Assistant Professor in molecular Genetics, Faculty of Science, Shahrekord University, Shahrekord, Iran
5- Assistant Professor in molecular Genetics, Faculty of Science, Shahrekord University, Shahrekord, Iran
6- MSc Student, Genetics, Faculty of Science, Shahrekord University, Shahrekord, Iran

Corresponding Author: *Ali Mohammad Ahadi Faculty of Science, Shahrekord University, Shahrekord, Iran ahadi_al@sci.sku.ac.ir*

Background: Leukemia inhibitory factor (LIF) is a pleiotropic cytokine that acts on many cell types including embryonic stem cells, megakaryocytes, osteoblasts, and neuronal cells. On the surface of these responsive cells, LIF first binds to the LIF receptor (LIFR) with low (Nano molar) affinity and then to gp130 to form a high-affinity (Pico molar) functional signaling complex. LIF is encoded by a unique gene in the human genome, located at chromosomal band 22q12.1-12.2 .LIF is a secreted glycoprotein described as a marker of the embryo implantation process. In endometrium of healthy women, LIF and LIF mRNA are expressed throughout the menstrual cycle with a striking increase in the mid-secretory phase, coinciding with a supposed window of implantation. Endometrium of infertile women produces significantly less LIF during the period of receptivity. Three spliced variants of LIF have been identified which include membrane-associated, diffusible, and truncated forms acting as paracrine factors in embryo implantation. The aim of this study was to compare alignment between two transcripts of LIF and identification of LIF gene by the different tools of bioinformatics.

Methods: In this study, we used Swiss-Model, Phyre 2, Clustalw servers and NCBI, Ensemble to compare and evaluate two variants of LIF.

Result: Sequences produced significant alignments between two mRNAs (93% query cover, 100% identity) while protein blast produced 2% query cover with 100% identity.19 residues of transcript 2 have been modeled with 13% confidence by the single highest scoring template.

Conclusion: These findings will be helpful to understand LIF's transcripts specially transcript 2 and prediction of its structure and function.

Keywords: Bioinformatics, Cytokine, Implantation, LIFR, Pleiotropic, LIF

P317: Expression analysis of sycp3 during in vitro differentiation of germ cells from mouse embryonic stem cell

Sasan Talaneh [1]

1- Behboud Jafari-Omid Asna Ashari-Ebrahim Mogheyci-Farokh Ghavam

Corresponding Author: *Sasan Talaneh-Islamic Azad University, Ahar Branch, Ahar, Iran, email: sasantalaneh@gmail.com*

Background: About 15% of couples have fertility problems and male factor infertility accounts for half of the cases. In vitro generation of germ cells introduces a novel approach to male infertility and provides an effective system in gene tracking studies, however many aspects of this process have remained unclear. We aimed to promote mouse embryonic stem cells (mESCs) differentiation into germ cells and evaluate its effectiveness with tracking the expression of the sycp3 gene during this process.

Methods: In the study, mouse embryonic stem cells were cultured on mouse embryonic fibroblast as feeder layer. Then mESCs were differentiated into germ cells in the presence of Retinoic Acid. Based on developmental schedule of the postnatal testis, samples were taken on the 7th, 12th and 25th days of the culture and were subjected to expression analysis of a panel of germ cell specific genes (Stra8 as pre-meiotic, Dazzle and Sycp3 as meiotic and Protamin1 and Spata19 as Post-meiotic). Expression of Testis sycp3 gene at RNA and protein levels was then analyzed.

Result: It was shown that transition of embryonic stem cells from mitosis to meiosis occurred between 7th and 12th days of mESC culture and post-meiotic gene expression did not occur until 25th day of the culture. Results showed low level of sycp3 expression in undifferentiated stem cells. During transition from meiotic to post-meiotic phase, sycp3 expression increased in 6.6 folds. This finding is in concordance with in vivo changes during transition from pre-pubertal to pubertal stage. Localization of processed and unprocessed form of the related protein was similar to those in in vivo as well.

Conclusion: Expression pattern of sycp3, as a gene with critical function in spermatogenesis, is similar during in vitro and in vivo germ cell generation. The results suggest that in vitro derived germ cells could be a trusted model to study genes behavior during spermatogenesis.

Keywords: Embryonic stem cells, Gene expression, Male infertility, Mice, sycp3, Cell differentiation

P318: The importance of VEGFR-1 gene polymorphism on in vitro fertilization and embryo transfer outcome

Farhad Mashayekhi [1] , Sadeghe Moienfar [1] , Mohammad Hadi Bahadori [2] , Roya Faraji [2]

1- Department of Biology, Faculty of Science, University of Guilan, Rasht, Iran
2- Cellular and Molecular Research Center, Faculty of Medical Sciences, Guilan University of Medical Sciences, Rasht, Iran

Corresponding Author: *Sadeghe Moeinfar, Email: sadeghe_sm@yahoo.com*

Background: One type of Assisted Reproductive Technology (ART) includes in vitro fertilization (IVF). Implantation is a critical step during IVF. After invading the maternal endometrium, embryonic development is characterized by a dramatic growth of vascular membranes and the formation of the placenta which is regulated mainly by VEGF system. The VEGF system is composed of two receptors, the kinase insert domain containing receptor (KDR) and the fms-like tyrosine kinase(Flt-1). Flt1 gene deficiency causes blood vessel deformity, overgrowth and disorder and makes embryo dead. A functional single-nucleotide polymorphism (SNP) in the VEGFR1 is known to influence in the gene expression in an allele-specific manner. The aim of this study was to analyze the impact of VEGFR-1 gene variation and IVF-ET outcome.

Methods: This case-control study was comprised of infertile patients (n=100) and women having one healthy child as controls (n= 100). Genomic DNA was extracted from blood samples. Genotype and allele frequencies of FLT1 gene were performed using polymerase chain reaction- Restriction fragment length polymorphism (PCR -RFLP). Statistical analysis was done using the 2-test and the Med Calc version 12.1.4. Differences were regarded significant at P

Result: Changes in the genotype and allele frequencies were seen between two groups.

Conclusion: It is concluded that VEGF-R gene polymorphism may be associated with IVF-ET outcome in the population of northern Iran. Although more studies should be considered with larger number of patients and control subjects to confirm our results.

Keywords: Gene polymorphism, Implantation, Infertility, IVF, VEGTR1

P319: Associated AZF gene mutations with infertility in men

Sasan Talaneh [1]

1- Behboud Jafari-Omid Asna Ashari-Ebrahim Mogheyci-Farokh Ghavam

Corresponding Author: *Sasan Talaneh, Islamic Azad University, Ahar Branch, Ahar, Iran, email: sasantalaneh@gmail.com*

Background: One of the main genetic factors of infertility is the deletions in the chromosome Y. The Y-chromosome azoospermic factor (AZF) regions consist of genes whose specific roles and functions in spermatogenesis and fertility have not been completely clarified. Hence, recognition of the association between AZF microdeletions and male infertility has suggestions for the diagnosis, treatment, and genetic counseling. The main objective of the present study was investigation of Y chromosome microdeletions in the non-obstructive azoospermic and oligospermic patients in Urmie and identification of appropriate STS markers associated with azoospermia and oligospermia.

Methods: In this case-control study, 100 infertile men referred to the Infertility Center of orumieh and 100 fertile men as controls were randomly selected. Genomic DNA was extracted from their blood and amplified by sequence tagged sites-polymerase chain reaction (STS-PCR) method. The presence of microdeletion in AZF locus was diagnosed.

Result: Three out of 45 infertile men had deletions in the AZFc and AZFa regions. Among every 3 infertile men, two patients (7.7%) and one patient (5%) had microdeletion in the AZFc region and in the AZFa, respectively. The results indicated that AZF microdeletions had a significant effect on azoospermia and oligospermia in infertile men.

Conclusion: Y-chromosome microdeletion analysis can be recommended as an important molecular test for infertile males to obtain reliable genetic information before the administration of assisted-reproductive techniques. It will help to decrease the cost and technical difficulty of the procedure.

Keywords: Azoospermia, Chromosome, Mutation, Oligospermia, Infertility

P320: Expression of dicer, a component of the microRNA biogenesis machinery in the prostate cancer

Fateme Piroozian [1]

1- Student Research Committee, Hormozgan University of Medical Sciences, Bandar Abbas, Iran

Corresponding Author: *Student Research Committee, Hormozgan University of Medical Sciences, Bandar Abbas, Iran, email: fateme.piroozian@gmail.com*

Background: Prostate cancer (PCa), the second most commonly identified cancer among men, accounts for significant cancer-correlated morbidity and mortality worldwide, and PCa-specific mortality is increasing in many Asian countries. Progressive or metastatic PCa remains incurable and treatment for prostate cancer can cause a variety of side effects. These can affect their sex life. So, for men who want to father children after treatment for prostate cancer, the best chance for fertility is sperm banking. Several genetic factors such as polymorphisms and epigenetic alterations are supposed to contribute to carcinogenesis and the progression of prostate adenocarcinoma. Furthermore, some studies have examined the roles of microRNAs (miRNA) in the initiation and development of human cancers, leading to the exploration of new mechanisms for tumor development. In new synthesis pathway, long miRNAs precursors are transcribed by RNA polymerase II and then processed into mature miRNAs by the consecutive action of Dicer and Drosha endonucleases. Dicer is an RNase III enzyme important for the maturation of nearly all microRNAs. Dicer is aberrantly expressed in numerous types of malignancies. So, the aim of this investigation was identification of the potential role of dicer as a biomarker in prediction of prostate cancer.

Methods: The papers about this study were searched in internet, focusing on the effector genes in miRNA biogenesis pathway. Online electronic databases including NCBI, PUBMED, SCOPUS and Google scholar were used. 386 papers were found and among them the papers that were not associated with this study were voided and 14 papers were examined in this study.

Result: In this study, 386 papers were found and 14 of them were used. It was showed the Dicer expression changes in prostate cancer and it showed the potential role of Dicer gene in tumorogenesis.

Conclusion: Recent studies have exposed down-regulation or hemizygous loss of Dicer in many tumor models and revealed that suppressing Dicer activity enhances tumorigenic activities of breast and lung cancer cells, which support Dicer as a haploinsufficient tumor suppressor in these cancer models. Astonishingly, studies displayed that knocking down Dicer expression suppresses the tumorigenic and growth capacity of human prostate cancer cell lines, but enhances migratory capacities of some prostate cancer cell lines. Dicer is up-regulated in human prostate cancer samples, but lower Dicer expression signifies a shorter time to recurrence. Complete suppression of Dicer activity in mouse model for prostate cancer significantly ceases tumor growth and progression, representing that Dicer plays a critical role in preserving cancer cell fitness. Altogether, these findings propose that Dicer plays an essential role in cell cycle, proliferation and apoptosis in Pca and might help as a promising biomarker for Pca progression and potential therapeutic target.

Keywords: Dicer, Infertility, miRNA, Prostate cancer

P321: The impact of interleukin10 gene variation on in vitro fertilization and embryo transfer

Farhad Mashayekhi [1] , Sozan Jahani [1]

1- Suzan Jahani and Farhad Mashayekhi ,Department of Biology, Faculty of Science, University of Guilan, Rasht, Iran

Corresponding Author: *Sozan Jahani, Email: sozan.jahani1@yahoo.com*

Background: One-third of sub-fertile couples have no identifiable cause for their inability to have a child. In vitro fertilization (IVF) is a widely accepted treatment for this condition. Inflammation mediated by both innate and adaptive immune cells is necessary for processes during pregnancy. Pro-inflammatory immune cell activation plays a critical role in embryo implantation, placentation; however, dysregulation of these cells can lead to detrimental pregnancy outcomes including spontaneous abortion and fetal growth restriction. Inflammation plays an important role throughout pregnancy and is largely mediated by immune cells that produce interleukin 10.The temporal and spatial aspects of reducing inflammation during pregnancy represent a complex process that if not functioning optimally can lead to persistent inflammation and pregnancy complications. Thus IL-10 may also play an important role in endometrial function and implantation. The aim of this study was to examine the association of IL10 gene variation with IVF-ET outcome in a population in northern Iran.

Methods: Blood samples were collected from 100 infertile women who underwent an IVF cycle and 100 healthy volunteers. Genomic DNA was prepared from peripheral blood leukocytes. Genotype frequencies were determined in patients and healthy controls using polymerase chain reaction (PCR).Genotyping for SNP of IL10 gene was calculated by statistical analysis. Statistical analysis was performed using the-test and the Med Calc version 12.1.4. Differences were considered significant at P

Result: The result of this study indicated that there is difference in the allele and genotype frequencies between both groups. Further studies are needed to confirm the result.

Conclusion: Inflammation plays an important role throughout pregnancy and is largely mediated by immune cells that produce interleukin 10.The temporal and spatial aspects of reducing inflammation during pregnancy represent a complex process that if not functioning optimally can lead to persistent inflammation and pregnancy complications. Thus IL-10 may also play an important role in endometrial function and implantation.

Keywords: Gene polymorphism, Interleukin10, PCR-RFLP, IVF-ET

P322: LIF:the cytokine with multiple performance in infertility

Sanaz Bahadori [1] , Ali Mohammad Ahadi [2] , Maryam Nemati [3] , Hoda Ayat [4] , Mojtaba Emadi [5] , Atefe Abdoli [6]

1- Faculty of Science, Shahrekord University, Shahrekord, Iran
2- Assistant Professor in molecular Genetics, Faculty of Science, Shahrekord University, Shahrekord, Iran
3- Assistant Professo in ,Ginaecology, Faculty of Medicine, Medical Sciences University, Shahrekord, Iran
4- Assistant Professor in molecular Genetics, Faculty of Science, Shahrekord University, Shahrekord, Iran
5- Assistant Professor in molecular Genetics, Faculty of Science,

Shahrekord University, Shahrekord, Iran
6- MSc Student, Genetics, Faculty of Science, Shahrekord University, Shahrekord, Iran

Corresponding Author: *Sanaz Bahadori, Genetics, Faculty of Science, Shahrekord University, Shahrekord, Iran. Emai: sanaz.bahadori@yahoo.com*

Background: Infertility is a common condition affecting one of the every six couples on the world. Infertility is a multifactorial and heterogenic complications. Implantation failure is the important cause of unexplained infertility. LIF protein as a cytokine has important role in implantation. Defect of LIF expression can lead to implantation failure and consequently reproductive problems.In this review study, we introduced LIF and its involvement in infertility.

Methods: For this purpose, we collected published previous reports in Medline and Pubmed servers.

Result: Based on performed studies, LIF is a pleiotropic cytokine which has an impact on the growth and development of embryos and receptivity of the uterus for embryo. LIF is overexpressed in the mid-secretory phase of the menstrual course during the implantation time and any defect in the expression of it can lead to a lack of readiness of the uterus and implantation failure. LIF protein belongs to four-helical cytokines superfamily that bind to a common cytokines IL-6 receptor family. This protein can activate many signaling pathways although the common pathway in the uterus is JAK/STAT.

Conclusion: The description of this gene can provide new ways in treatment of implantation deficiencies caused by decreased expression of LIF.

Keywords: Cytokine, Implantation, JAK / STAT, LIF, Infertility

P323: The comparison of dietary Zinc intake in polycystic ovary syndrome (PCOS) sub groups based on Rotterdam criteria with the control group

Narges Zaeemzadeh [1] , Saeideh Ziaei [2] , Azadeh Mottaghi [3] , Maryam Movahedinejad [4]

1- Tarbiat Modares University, Tehran, Iran
2- Tarbiat Modarres University, Tehran, Iran
3- Tarbiat Modarres University, Tehran, Iran
4- Tarbiat Modarres University, Tehran, Iran

Corresponding Author: *Department of Midwifery, Tarbiat Modares University, Tehran, Iran, email: ngs.zaim@gmail.com*

Background: Polycystic ovary syndrome (PCOS) is the most common endocrine disorder in childbearing aged women in Iran which has relatively high prevalence. There is an oxidative stress and inflammatory basis in the pathogenesis of PCOS. Zinc is one of micronutrients with the powerful antioxidant and anti-inflammatory property. There are many contradictions in relation to dietary zinc intake in PCOS women. This study aimed to assess the dietary zinc intake in PCOS subgroups based on Rotterdam criteria in comparison with the control group.

Methods: This case-control study approved by the Medical Ethics Committee, was conducted by available sampling methods on 182 patients eligible for the study. Subjects were classified according to the Rotterdam criteria as follows: A(n=41), B (n=33), C (n=40), D (n=37) and control (without any PCOS)(n=31). Assessment of dietary zinc intake was carried out by valid and reliable 168-items FFQ. Statistical analysis was performed using SPSS22 software and Kruskal-Wallis (KW) and Mann-Whitney (MW) tests.

Result: A statistically significant difference was observed in dietary zinc intake, between sub groups of PCOS and a control group (KW:P< 0.05). The zinc intake, in all sub groups of PCOS, was lower compared to the control group (MW:P< 0.005), but no statistically significant differences were found between PCOS subgroups in zinc intake (MW:P> 0.005).

Conclusion: With regard to anti-inflammatory and antioxidant effects of zinc, dietary deficiency of this micronutrient, can be one of the modifiable factors affecting the incidence and severity of PCOS.

Keywords: Inflammation, Oxidative stress, PCOS, Zinc

P324: Th17 and Treg , two important factors in successful fertility in overweight and obese individuals

Mitra Zarrati [1] , Farzad Shidfar [2]

1- Nutrition Faculty, School of Public Health, Iran University of Medical Sciences, Tehran, Iran

2- Proffesor, Nutrition Faculty, School of Public Health, Iran University of Medical Sciences

Corresponding Author: *Mitra Zarrati, Nutrition Faculty, School of Public Health, Iran University of Medical Sciences, Tehran, Iran, Email: zarrati_ms@yahoo.com*

Background: The differentiation of Th17 cells is initiated by transforming growth factor (TGF)-β1 and IL-6, which activate signal transducer and activator of transcription 3 (Stat3) and induce the expression of the transcription factor retinoic acid-related orphan receptor gamma t (RORγt). On the other hand, the presence of TGF-β1 but not IL-6 induces the expression of Foxp3, resulting in Treg induction. It is well known that Treg cells play very important roles in the maintenance of allogeneic pregnancy, and decreased numbers of Treg cells and decreased expression of Foxp3 mRNA are observed in the decidua and endometrium in abortion and implantation failure. An elevation in IL-17 was also observed in an acute renal rejection model. Thus, the balance between Th17 and Treg might be correlated with successful pregnancy.

Methods: The present randomized doubled-blind controlled clinical trial was performed recruiting 75 individuals with BMI 25–35, who were randomly assigned to the following three groups: Group 1 who consumed regular yogurt as part of a low calorie diet [RLCD], group 2 who received probiotic yogurt with a LCD [PLCD] and group 3 who consumed probiotic yogurt without LCD [PWLCD] for 8 week. Participants in PLCD and PWLCD groups received 200 g/day yogurt containing Lactobacillus acidophilus La5, Bifidobacterium Bb12, and lactobacillus casei DN001 108 cfu/gr. The expression of the FOXP3, T-bet, GATA3, TNF-a, IFN-c, TGF-b, and ROR-ct in PBMCs genes were assessed, before and after intervention.

Result: In three groups, ROR-ct expression was reduced (P50.007) and FOXP3 increased (P< 0.001). The expression of TNFa, TGFb, and GATA3 genes did not change among all groups after intervention. Interestingly, the expression of T-bet gene, significantly decreased in PLCD and PWLCD groups (P< 0.001), whereas gene expression of IFN-c decreased in all three groups.

Conclusion: Our results suggest that weight loss diet and probiotic yogurt had synergistic effects on T-cell subset specific gene expression especially in Th17/Treg in peripheral blood mononuclear cells among overweight and obese individuals.

Keywords: Infertility, Probiotic, Th17, Obesity, Treg

P325: Effect of vitamin D supplementation on outcomes of assisted reproduction techniques

Mahboubeh Taebi [1] , Sara Abedi [2]

1- Department of Midwifery, School of Nursing and Midwifery, Isfahan University of Medical Sciences, Isfahan, Iran
2- Department of Midwifery, School of Nursing and Midwifery, Isfahan University of Medical Sciences, Isfahan, Iran

Corresponding Author: *Sara Abedi, Isfahan University of Medical Sciences, Isfahan, Iran, email: abedi_sa@yahoo.com*

Background: The role of vitamin D on reproductive system has been proven in several study. The present study aimed to evaluate the effect of vitamin D supplementation on endometrial thickness, biochemical and clinical pregnancy.

Methods: This randomized, double-blind, placebo-controlled trial that was conducted in infertility clinic of fertility and infertility center, Isfahan, Iran. In total, 85 infertile women undergoing ART were enrolled between March 2015 and October 2015. Data were analyzed by descriptive and analytical statistical tests through SPSS 18.

Result: Only 15 women out of 159 women (9.43%) who checked serum 25-(OH) vitamin D were sufficient. 108 infertile women with insufficient serum vitamin D (less than 30 ng/ml) were included in the study. Overall, 47.6% of the patients had a positive pregnancy test, 38.1% a clinical pregnancy. Positive HCG, clinical pregnancy were significantly lower in vitamin-D deficient women compared with those with 25-OH vitamin D values exceeding 30 ng/ml. We found significant differences in the quality of endometria (p=0.05), chemical (p=0.013) and clinical (p=0.019) pregnancy between two groups.

Conclusion: The results showed adequate amounts of vitamin D in serum affected quality and thickness of endometrial, biochemical and clinical pregnancy rate. The results were similar to the results of many studies that have been done in this filed. Therefore, we can say that vitamin D can affect the success of infertility treatment.

Keywords: Assistant reproductive treatment, Biochemical pregnancy, Clinical pregnancy, Vtamin D, Quality of endometrium

P326: The effect of vitamin D on fertility

Afsaneh Kazemian [1]

1- School of Nursing and Midwifery, Shahrekord University of Medical Sciences, Shahrekord, Iran

Corresponding Author: *School of Nursing and Midwifery, Shahrekord University of Medical Sciences, Shahrekord, Iran, email: kazemian_afsane@yahoo.com*

Background: Healthy eating is one of the most important and maybe most basic ways to access to physical health, although it is helpful for mental health. According to undeniable effects of food on fertility and knowing that vitamin D is one of the most important and most effective vitamins in fertility, this study was performed with the aim of evaluating the role of vitamin D on fertility.

Methods: This research was performed by the review of the literature with the available resources and evaluating internet resources.

Result: Vitamin D is fat-soluble and belongs to the family of steroid hormones and participates in many reactions. Incidence deficiency of vitamin D among women with ovarian hyper stimulation in western countries is 28-31% and in studies in Iran 75-99% has been reported. Lack of vitamin D may impact the quality and sperm count in men and has desirable effects on semen quality, testosterone, and outcome of fertility. Development of follicles in women, luteinization, follicular phase ovulation, implantation and embryo development influences also play a role in supporting local and immunological function. Moreover, success of IVF, insulin resistance hyper androgenism, endometriosis, and polycystic ovary are important as well. This effectively increases the chance of fertility and vitamin D deficiency can lead to miscarriage.

Conclusion: Vitamin D has an important role in human fertility. Deficiency of this vitamin in infertility treatment should be considered.

Keywords: Fertility, Vitamin D

P327: Serum zinc and iron in the first half of pregnancy and their relationship with preterm delivery: a prospective longitudinal study

Fatemeh Reisian [1] , Minoor Lamyian [2] , Ebrahim Hajizadeh [3] , Sare Bakouei [4] , Mina Eteraf [5] , Maryam Eteraf [6] , Fatemeh Rayeji [7]

1- Department of Midwifery, Gorgan branch, Islamic Azad University , Gorgan, Iran
2- Department of Midwifery and Reproductive health, Tarbiat Modares University, Tehran, Iran
3- Professor, PhD in Biostatistics, School of Medical Science ,Tarbiat Modares University, Tehran, Iran
4- MSc in Midwifery, School of Nursing and Midwifery, Qom University of Medical Sciences, Qom, Iran
5- Department of Midwifery, Gorgan branch, Islamic Azad University , Gorgan, Iran
6- Department of Midwifery, Gorgan branch, Islamic Azad University , Gorgan, Iran
7- Department of Midwifery, Gorgan branch, Islamic Azad University , Gorgan, Iran

Corresponding Author: *Department of Midwifery, Gorgan Branch, Islamic Azad University , Gorgan, Iran, email: reisian2008@gmail.com*

Background: Preterm delivery is a critical factor in neonatal morbidity and mortality. The present study was performed to determine the relationship between serum level of zinc and iron and preterm delivery.

Methods: This cohort study was conducted, via multi-stage sampling, on 1033 pregnant women referred to the prenatal centers of Tehran, Iran. The instrument was demographic- productivity questionnaire completed within the 14th-20th weeks of gestation. Serum level of zinc and iron was measured by spectrophotometric atomic absorption method and Ferene test, respectively. To analyze the data, we used T test, $\chi 2$ and logistic regression, by SPSS16 software.

Result: The incidence of preterm delivery was 10.5%. This rate increased to 12.5% and 18.2% in lack of iron and zinc, respectively. There was no significant link between lack of zinc level and preterm delivery ($P>0.05$), but the relationship between lack of iron and preterm delivery was significant ($P< 0.05$). Based on logistic regression, there was higher risk of preterm delivery if iron serum level was low [P=0.005, OR=2.16, cl (1.26-3, 69)].

Conclusion: Given the high impact of lack of iron on preterm delivery, we recommend that the factors

effective on intake and absorbtion of iron be emphasized in reproductive education.

Keywords: Pregnancy, Serum iron, Serum zinc, Preterm Delivery

P328: Nutritional and environmental factors in reproduction

Matin Ghadiri [1] , Javad Dashtban [2] , Fateme Nikfar [3] , Kambiz Abdi [4] , Erfan Shikh sirdani [5] , Hani Jamali [6] , Mohammad Shakiba [7]

1- Science and Research Branch, Islamic Azad University Central Tehran, Iran - Basic Sciences
2- Science and Research Branch, Islamic Azad University Central Tehran, Iran - Basic Sciences
3- Science and Research Branch, Islamic Azad University Central Tehran, Iran - Basic Sciences
4- Science and Research Branch, Islamic Azad University Central Tehran, Iran - Basic Sciences
5- Science and Research Branch, Islamic Azad University Central Tehran, Iran - Basic Sciences
6- Science and Research Branch, Islamic Azad University Central Tehran, Iran - Basic Sciences
7- Science and Research Branch, Islamic Azad University Central Tehran, Iran - Basic Sciences

Corresponding Author: *Islamic Azad University, Central Tehran, Tehran, Iran, email: matin_ghadiri@yahoo.com*

Background: The effect of vitamins ,food and environmental factors affect the environment , including the effects of electromagnetic , environmental pollution , pesticide residues in food , drugs.

Methods: Molecular mechanisms of self-renewal is a perfect tool to discover new treatments for some infertile men or for patients undergoing chemotherapy / radiotherapy, before or after puberty.

Result: Due to the sensitive nature of reproduction, this action caused multiple injuries to the reproductive system in men and women, as infertility, miscarriage and cancer of the reproductive system.

Conclusion: The effect of vitamins, minerals, food and environmental factors affect the environment, including the effects of electromagnetic, environmental pollution, pesticide residues in food, doping of these factors on reproduction, fertility and infertility has had an impact.

Keywords: Environmental factors, Nutrition, Reproduction

P329: Dietary supplementation with astaxanthin may improve sperm parameters and DNA integrity in streptozotocin -induced diabetic rat

Maryam Bahmanzadeh [1] , Zohreh Alizadeh [2] , Ali Asghar Vahidinia [3] , Shayesteh Mahdinejadiani [4] , Safoura Raoufi [5]

1- Endometrium and Endometriosis Research Center,Hamadan University of Medical Sciences, Hamadan, Iran
2- Endometrium and Endometriosis Research Center,Hamadan University of Medical Sciences, Hamadan, Iran
3- Department of Nutrition, School of Medicine, Hamadan University of Medical Sciences, Hamadan, Iran
4- Department of Anatomy, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran
5- Department of Physiology, School of Medicine, Hamadan University of Medical Sciences, Tehran, Iran

Corresponding Author: *Maryam Bahmanzadeh, Endometrium and Endometriosis Research Center,Hamadan University of Medical Sciences, Hamadan, Iran, Email: bahmanzadeh12@yahoo.com*

Background: Diabetes mellitus (DM) is a chronic disease which increased rapidly in the worldwide. DM is known to cause many systemic complications and male infertility. Astaxanthin (Astx) is a powerful antioxidant which has variety of biological activities such as anti-diabetes and anti-obesity effects. The present study was designed to investigate the effect of two month post-treating Astx on the spermatozoa function in Streptozotocin (STZ)-induced diabetic rats.

Methods: Experimental DM was induced by a single intra-peritoneal injection of STZ. 8 weeks after STZ injection, half of diabetic animals were used as diabetic controls, and the rest were treated by Astx for 56 days then the sperm parameters and chromatin integrity were analyzed.

Result: Astx treatment improved the sperm viability and increased the rate of sperm with normal morphology compared to STZ-induced rats. Besides, Astx enhanced sperm DNA integrity in the STZ-induced group.

Conclusion: In the current study, it was observed that in vivo Astx treatment partially attenuates detrimental effect of diabetes. Conversely, Astx improved sperm viability, normal morphology and DNA integrity.

Keywords: Diabetes mellitus, Sperm, Streptozotocin, Astaxanthin, Chromatin

P330: Effect of vitamin D supplementation on ovarian factors in infertile women

Mahboubeh Taebi [1] , Sara Abedi [2]

1- Department of Midwifery, School of Nursing and Midwifery, Isfahan University of Medical Sciences, Isfahan, Iran
2- Department of Midwifery, School of Nursing and Midwifery, Isfahan University of Medical Sciences, Isfahan, Iran

Corresponding Author: *Sarah Abedi, Department of Midwifery, School of Nursing and Midwifery, Isfahan University of Medical Sciences, Isfahan, Iran, email: abedi_sa@yahoo.com*

Background: The role of vitamin D on reproductive system has been proven in several study. The present study aimed to evaluate the effect of vitamin D supplementation on ovarian factors in infertile women.

Methods: This randomized, double-blind, placebo-controlled trial that was conducted in infertility clinic of fertility and infertility center, Isfahan, Iran. In total, 85 infertile women undergoing ART were enrolled between March 2015 and October 2015. Data were analyzed by descriptive and analytical statistical tests through SPSS 18.

Result: Only 15 women out of 159 women (9.43%) who checked serum 25-(OH) vitamin D were sufficient. 108 infertile women with insufficient serum vitamin D (less than 30 ng/ml) were included in the study. No significant differences were observed between vitamin-D deficient women and those with vitamin D levels ≥ 30 ng/ml regarding the number of oocytes, number of embryos, fertilization rates, percentage of top quality embryos and quality($p>0.05$).

Conclusion: Results shows adequate amounts of vitamin D in serum did not affect the number of oocyte, quality of embryo, number of embryo and fertilization rate. However, some studies have shown tthe effect of Vitamin D on ovarian factors. Therefore, more studies are needed to be done in this filed.

Keywords: Assisted reproductive treatment, Infertility, Oocyte, Vitamin D, Quality of embryo

P331: Effect of nutritional strategies on fertility rate from the view point of Iranian traditional medicine

Afsaneh Shakeri, Fatemeh NEJATBAKHSH [1] , Majid EMTIAZY [2] , Alireza BEIGOMI [3]

1- Professor Assistant
2- Professor Assistant
3- Professor Assistant

Corresponding Author: *Afsaneh Shakeri, Department of Iranian Traditional Medicine, School of Medical Sciences, University of Tehran, Tehran, Iran, Email: drshakeri60@yahoo.com*

Background: Despite significant improvement of human appreciation in healthy nutrition, there has been no consensus among nutritionists and consistent guideline about healthy nutrition to improve fertility rate in modern medicine yet. ITM, however, believes that there are safe strategies for both men and women to increase fertility rate, to which this review was directed.

Methods: Nutritional recommendations to improve fertility rate for both males and females were collected and analyzed from selected medical textbooks of ITM. The results then were categorized into four groups; nut meats, fruit and vegetables, meats, and some mixture from food with natural sources.

Result: Retrieved strategies from the selected textbooks showed that nut meats (hazelnut, almond, pistachio, walnut, sesame), some fruit and vegetables (grape, turnip, beet, banana, melon, mango, fig, onion, pea, carrot, beans, coconut, basil, scallion, mint, garlic, white berry, and pear), meats (chicken, lamb, sparrow, quail, prawn, fish, and duck), and some mixtures like starch plus sugar, and date plus milk may help increase fertility rate in both men and women.

Conclusion: In poor literature environment in classic medicine about effective nutritional strategies to improve fertility rate and despite lack of clinical trials to explore to what extend such advice is cost-effective, ITM represents some recommendations from natural sources. Some nut, meats, fruit and vegetables are believed, in ITM, to increase fertility rate in males and females.

Keywords: Fertility rate, Fruit and vegetables, Nut meats, Nutrition, Strategies, ITM

P332: Effect of reactive oxygen species and the role of antioxidant therapy in male infertility

Safoora Hedayati [1] , Ali Motamedimotlagh [2]

1- School of Public Health, University of Medical Science, Kermanshah, Iran
2- Ph.D of Physiology, Islamic Azad University, Babol Branch, Mazandaran, Iran

Corresponding Author: *1School of Public Health, University of Medical Science, Kermanshah, Iran- safoorahedaiati@yahoo.com*

Background: The rate of cellular damage increases by oxygen and oxygen-derived oxidants that are commonly known as reactive oxygen species(ROS), the agents belonging to the class of free radical. These agent can play a number of significant and diverse roles in reproduction many ways, because of their associated with oxidative stress. Oxidants modify the macromolecules both structurally and functionally. ROSs have both pathological and physiological role in both sexes reproduction and in reproductive medicine. Mammalian spermatozoa are very susceptible to ROS attack because of reaching polyunsaturated fatty acid and thus resulting a decrease in sperm motility.

Methods: This paper evaluated the review of some article about ROS.

Result: According to the studies, high levels of ROS endangers sperm function and viability and in semen and it has been correlated with reduced damage to sperm nuclear DNA and motility. ROS-mediated peroxidative damage to the sperm plasma membrane may account for the defective sperm functions observed in a high proportion of infertility patients. In one study that prepared the H2O2-demaged human sperm, cocultured with the oligosaccharides in vitro, the changes of the DNA using confocal micro-Raman spectroscopy were observed, and comparative analysis of the differences of the spectra of different treated groups were observed. The results showed that the oligosaccharides can protect the DNA of human sperm from being damaged by H2O2.

Conclusion: This method may be beneficial in treatment with antioxidants and reducing oxidative stress to patients with oxidative stress. Patient treatment with oral antioxidant vitamins associated with zinc and selenium decreases formation of ROS, decreases sperm DNA fragmentation and improves fertility.

Keywords: Antioxidant, Infertility, Oxidative stress, Reactive oxygen species

P333: Asthenozoospermia and vitamin D

Ghazal Hosseini [1]

1- Jundishapour University of Medical Sciences, Ahvaz, Iran

Corresponding Author: *Jundishapour University of Medical Sciences, Ahvaz, Iran, email: ahoo_8267@yahoo.com*

Background: Vitamin D influences every cell in human body and has been positively linked to health conditions in fertility in both men and women. Asthenozoospermia is a kind of male infertility that reduces motility of sperm. In this study, we evaluated the effect of vitamin D on sperm morphology and motility of astenozoospermia.

Methods: The study was carried out on semen of 7 infertile men who referred to IVF clinic of Imam Hospital in Ahvaz Jundishapour University of Medical School. Samples were processed for swimming up. Supernatant was divided into two groups, one as control and another one had received 100 microliter of vitamin D as experimental group for 1 hour .They were assessed for sperm motility by Makler chamber and morphology by Diff quick according to the World Health Organization guidelines.

Result: The results revealed that: 1- Total motility of sperm was increased with vitamin D (9±4 versus 3±3) but there was no significant statistical difference (Pvalue=0.069) 2- Fast motility significantly increased (2±2 versus 0.0943± 0.001, Pvalue=0.001) 3- The morphology of sperm did not show any changes with vitamin D (22±26 versuse 23±14 ,P value=0.891).

Conclusion: This study showed that vitamin D can have an effect on motility of sperm, but further work is needed to find amount of vitamin D that can be used in the human body for spermatogenesis.

Keywords: Asthenozoospermia, Human sperm, Morphology, Motility, Vitamin D

P334: Nutrition in polycystic ovarian syndrome based on traditional Iranian medicine

Maryam Rouhani [1] , Maliheh Amirian [2] , Shapour Badiee Aval [3]

1- Faculty of Traditional Iranian Medicine, Mashhad University of Medical Sciences, Mashhad, Iran
2- M.D., Assistant Professor of Obstetrics & Gynecology, School of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran
3- MD and Clinical PHD of acupuncture and massage, Department of Persian medicine, Mashhad University of Medical Sciences, Mashhad, Iran

Corresponding Author: *Maryam Rouhani, Faculty of Traditional Iranian Medicine, Mashhad University of Medical Sciences, Mashhad, Iran, Email: rouhani1443@gmail.com*

Background: Polycystic ovary syndrome (PCOS) is referred as the most common female endocrinopathy, impacting 8.7-17.8 percent of women of reproductive age. Nutrition has a significant role in treating disease and traditional Iranian medicine has many documents and emphasizes on proper nutrition in the prevention and treatment of diseases such as this.

Methods: In this review , specific data related to the subject was extracted from original TIM resources written between 815 and 1901 and analyzed. MAXqda2 software was used to summarize and compare the contents.

Result: The dietary recommendations in polycystic ovary syndrome is different depending on the cause of infertility. But in all cases the competent humor-producing foods is recommended. According to the classification of traditional Iranian medicine textbooks, in the case of dystemperament, it is advised to use opponent temperament foods and avoid excessive consumption compatible foods; Molattef foods (dilute a thick humor) in the increased presence of thick humor, Moffatteh foods (obstruction opener) in the anatomic abnormalities, uterine tonic foods in the weakness of the uterus and if there are strong winds, some foods that can reduce them. Balancing weight by changing quantity and quality of food is essential and attention to psychological, behavioral status and main organs (such as heart, liver, and brain) is necessary too.

Conclusion: Because of the importance of nutrition in diseases like polycystic ovary syndrome, traditional Iranian medicine diet can be beneficial in their prevention and treatment.

Keywords: Nutrition, Polycystic ovary syndrome, Traditional medicine

P335: Health tourism and infertility treatment

Mahbobeh Boroomandi Barati [1] , Minoo Naebi [2] , Azra Izanloo [3] , Marta Ghahreman [4]

1- Research and Education Department, Razavi Hospital, Mashhad, Iran
2- Research and Education Department, Razavi Hospital, Mashhad, Iran
3- Research and Education Department, Razavi Hospital, Mashhad, Iran
4- Research and Education Department, Razavi Hospital, Mashhad, Iran

Corresponding Author: *Research and Education Department, Razavi Hospital, Mashhad, Iran, email: bromandi.67@gmail.com*

Background: Reproductive tourism or "Cross-border reproductive Care" (CBRC) that is considered as one type of medical tourism, is the phenomenon of people crossing over the international borders in order to access reproductive technologies. About 20,000 to 25,000 couples annually seek assisted reproductive methods in abroad. Legal restrictions in the tourist's home country as well as the lower price in the country providing services are the main reasons of reproductive tourism. Iran is health tourism industry. Razavi Hospital as a unique medical center at the national, regional level and among the Islamic countries, has also taken some important steps towards the health tourism.

Methods: Data were collected based on the information extracted from all the national and international IVF cases' medical records from 2009 to 2014 and first half of 2015 in the IVF department of Razavi Hospital, and also following up the treatment results of applying IVF technique. The collected data were then analyzed.

Result: P= 0.014 was reported due the comparison of the positive results of national and international; IVF cases, and P= 0.006 due to comparing the negative results of the mentioned clients, which showed a significant result between the two groups. The average rate of positive results in national and international patients was reported 28% and 25.3% respectively, while the rate of success in both groups showed a gradual increase.

Conclusion: Since the international clients are mostly citizens of the region, and they have close similarity to our people in terms of culture, religion and customs, also the rate of successful results in infertility treatment in international clients was approximately equal to the national client's rate.

Keywords: Infertility, Iran, IVF, Health Tourism

P336: A comparative study of the level of mental health, happiness, inferiority feelings, marital satisfaction and marital conflict in fertile and infertile women in Kermanshah

Jamileh Shahverdi [1]

1- Department of Clinical Psychology, Faculty of Medicine, Kermanshah University of Medical Science, Kermanshah, Iran

Corresponding Author: *Department of Clinical Psychology, Faculty of Medicine, Kermanshah University of Medical Science, Kermanshah, Iran. E- mail: Shahverdi.jamile@yahoo.com*

Background: Infertility and the reactions of people towards it can lead to psychological disorders which have negative effects on the life of young couples. Therefore, this study aimed to comparatively analyze the level of mental health, happiness, inferiority feelings, sexual satisfaction and marital conflict in fertile and infertile women in Kermanshah.

Methods: This cross-sectional study was done on 100 infertile and 100 fertile women using convenient sampling. The questionnaires used in this study were Scaled-General Health Questionnaire-28 (GHQ-28), happiness, inferiority feelings, Enrich Marital Satisfaction Scale (EMS) and Kansas Marital Conflict Scale (KMCS). Running Chi-squared and independent t-tests, the data was analyzed using SPSS-16.

Result: The results of this study revealed that there was a significant difference between the studied variables in the fertile and the infertile women (P

Conclusion: Infertile women are exposed to more psychological disorders in comparison to fertile ones. Considering such problems of infertile women, it seems necessary for fertility clinics to have some psychologists.

Keywords: Happiness, Inferiority feelings, Infertility, Marital conflict, Marital satisfaction, Mental health

P337: The effects of education on anxiety levels and sexual satisfaction in infertile women in Iran

Safieh Jamali [1] , Zahra Mosallanekhad [2] , Fatmeh Zarei [3]

1- Research Center for Social Determinants of Health, Jahrom University of Medical Sciences, Jahrom , Iran
2- Department of OB a GYN , Jahrom University of Medical Sciences, Jahrom, Iran zahramosallanezhad@hotmail.com
3- BSc, Department of Psychology, Department of Education Grash, Grash, Iran.

Corresponding Author: *Safieh jamali: Research Center for Social Determinants of Health, Jahrom University of Medical Sciences, Jahrom , Iran, email: SAFIEH_JAMALI@YAHOO.COM*

Background: As one of the most stressful events that can happen in an individual's life, infertility can act as a psychological blow to a couple's life. Infertility can also reduce sexual satisfaction in infertile women. In view of the importance of the psychological-sexual effects of infertility on women, the present study aimed to explore the effects of education on the anxiety levels and sexual satisfaction of infertile women in the Infertility Clinic of Jahrom.

Methods: This was a controlled interventional study in which 148 infertile women were selected based on the convenience sampling method and were subsequently divided into two equal groups—74 women in the control group and 74 women in the intervention group—based on the random allocation method. The study was conducted in two stages: the pretest stage and the one-month follow-up. The data collection instruments consisted of a demographic questionnaire, Female Sexual Function Index and Spielberger Anxiety Inventory. The collected data were analyzed using SPSS and descriptive and deductive statistical methods (chi-square test, t-test, and paired t-test). Significance level was set at p

Result: The results show that, before the intervention, there was not a statistically significant difference between the two groups' sexual satisfaction levels (P=0.28). However, one month after the intervention, the sexual satisfaction levels of the women in the control group and intervention group were found to be significantly different (P

Methods: In order to collect data, 18 health service providers with specialty in reproductive health and counseling in midwifery discussed their experiences in a panel in the group discussion in Sari city in 2015. This method was done in 6 steps: 1- Stating a question (Strategies to support women after misscarriage), 2- Silence and concentration on the subject for 5 to 10 minuets, 3- Writting down the idea, 4- Writing the idea on a board and discussing and clarifying the idea. 5- Concluding and categorizing of the ideas.

Result: In the first step, 38 strategies were identified in total, in order to support women after abortion. Finally, in the second step, after eliminating and combining similar cases, 21 strategies in 5 categories were identified namely physical support, psychological support, social support, economic support and strategies related to health system .

Conclusion: Findings show that in supporting women after abortion, attention should be paid to the social, economic and especially psychological aspects along with the physical one. To do so, it is important to design suitable educational protocols and packages and to make use of a knowledgeable team in this field. It is also recommended to combine consulting and care services after abortion in PHC for correct identification, referral and treatment.

Keywords: Physical support, Abortion, Psychological support

P338: The perspective of Iranian specialists and health care providers on supportive needs after abortion with an approach to group discussions

Zeinab Hamzehgardeshi [1,2] , Zohreh Shahhosseini [1,2] , Soghra Khani [1,2] , Hoda Arabi Mianrood [3]

1- Department of Reproductive Health and Midwifery, Nasibeh Nursing and Midwifery faculty, Mazandaran University of Medical Sciences, Sari, Iran
2- Traditional and Complementary Medicine Research Centre, Mazandaran University of Medical Sciences, Sari, Iran
3- Student Research Committee, Mazandaran University of Medical Sciences, Sari, Iran

Corresponding Author: *Hoda Arabi Mianrood, Student Research Committee, Mazandaran University of Medical Sciences, Sari, Iran, email: hodaarabi1393@gmail.*

Background: According to the definition of World Health Organization, abortion is the loss of pregnancy to the 23rd week of pregnancy or to when the fetus is under 500 grams. According to official statistics, every year 70000 abortions occur in Iran. There aren't any accurate statistics due to the cultural and legal reasons, however. The purpose of the present study was to investigate strategies for physical and mental support after abortion in the Iranian society through the approach of focused group discussions.

Methods: In order to collect data, 18 health service providers with specialty in reproductive health and counseling in midwifery discussed their experiences in a panel in the group discussion in Sari city in 2015. This method was done in 6 steps: 1- Stating a question (Strategies to support women after misscarriage), 2- Silence and concentration on the subject for 5 to 10 minuets, 3- Writting down the idea, 4- Writing the idea on a board and discussing and clarifying the idea. 5- Concluding and categorizing of the ideas.

Result: In the first step, 38 strategies were identified in total, in order to support women after abortion. Finally, in the second step, after eliminating and combining similar cases, 21 strategies in 5 categories were identified namely physical support, psychological support, social support, economic support and strategies related to health system .

Conclusion: Findings show that in supporting women after abortion, attention should be paid to the social, economic and especially psychological aspects along with the physical one. To do so, it is important to design suitable educational protocols and packages and to make use of a knowledgeable team in this field. It is also recommended to combine consulting and care services after abortion in PHC for correct identification, referral and treatment.

Keywords: Abortion,Psychological support, Physical support

P339: Paternal adaptation assessment in Iranian fathers: a cross sectional study

Narges Eskandari [1] , Masoumeh Simbar [2] , AbuAli Vadadhir [3] , Ahmadreza Baghestani [4]

1- Department of Midwifery, School of Nursing and Midwifery, Qom University of Medical Science, Qom, Iran
2- Associate Professor, Department of Midwifery and Reproductive Health, School of Nursing and Midwifery, Shahid Beheshti University of Medical Science, Tehran, Iran.
3- Associate professor, Department of anthropology, School of social sciences, Tehran University, Tehran, Iran.
4- Associate professor, Department of biostatistics, School of paramedical faculty, Shahid Beheshti University of Medical Science, Tehran, Iran

Corresponding Author: *Narges Eskandari, Department of Midwifery, School of Nursing and Midwifery, Qom University of Medical Science, Qom, Iran, email: eskandari.2008@yahoo.com*

Background: Paternal adaptation assessment is necessary to examine fathers who suffer from parental adaptation and need support. Thus, the present study was designed to assess paternal adaptation in first time fathers.

Methods: Paternal adaptation levels were assessed through a cross-sectional study by "paternal adaptation questionnaire" and participation of 572 first time fathers who had one infant. Sampling was done through a continuous method during two months with fathers whose child has health records in Qom health centers. Data was collected via demographic questionnaire and paternal adaptation questionnaire and analyzed by SPSS version 21 and descriptive methods.

Result: The means for "paternal adaptation", "ability in performing the roles and responsibilities", "perceiving the parental development", "stabilization in paternal position", "spiritual stability and internal satisfaction", and "challenges and worries" were 82.61±7.68, 91.96±8.58, 88.51±10.49, 85.32±10.62, 95.55±8.41, 51/67±22.72, respectively.

Conclusion: Results of this study showed that precipitants have a favorite condition in paternal adaptation and its domains, expect in "challenges and worries" domain that fathers gain middle scores. Maximum scores accrued to "spiritual stability and internal satisfaction" domain and minimum scores accrued to "challenges and worries" domain.

Keywords: Assessment, Fatherhood, Paternal adaptation questionnaire, Adaptation

P340: Effect of continuous care model on quality of life and treatment associated with infertile women

Fatemeh Rahimikian [1] , Masoomeh Fadaee [2] , Abbas Mehran [3]

1- Nursing and Midwifery Care Research Center , School of Nursing and Midwifery,Tehran University of Medical Sciences,Tehran, Iran
2- Faculty of Nursing and Midwifery, Tehran University of Medical Sciences
3- Faculty of Nursing and Midwifery, Tehran University of Medical Sciences

Corresponding Author: *Nursing and Midwifery Care Research Center, School of Nursing and Midwifery, Tehran University of Medical Sciences, Tehran, Iran, email: rahimikian@tums.ac.ir*

Background: Infertility and its treatment as a crisis affects various aspects of quality of life in women. The aim of this study was to determine the effect of continuous care model on quality of life and treatment associated with infertile women.

Methods: In this semi-experimental study, 80 infertile women referred to infertility centers selected from Tehran University of Medical Sciences during 2015 were included by simple (convenient) sampling method. Demographic and Ferti Qol questionnaires were given to the samples. 2-3 training sessions were held for implementation of continuous care model. Quality of life in infertile women was evaluated during two stages: before intervention and 2 months after intervention in evaluation stage. Data analysis was done through SPSS 21 using the independent t-test, paired t-test, chi-square and fisher, exact test.

Result: The study results showed that the mean of quality of life associated with infertility treatment in intervention and control groups were 30.08± 2.474 and 25.28± 4.602. A significant difference between intervention and control group was observed (P

Conclusion: According to project results, implementation of continuous care model improves quality of life associated with infertility treatment in infertile women. Thus, it is recommended that continuous care model be used as an educational, easy, low cost and available model.

Keywords: Infertility, Quality of life, Treatment, Continuous care model

P341: The assesment of youth attitude about childbearing

Soheila Foroozanfar [1]

1- Iran University of Medical Sciences, Tehran, Iran

Corresponding Author: *Iran University of Medical Sciences, Tehran, Iran, email: sohafoz@yahoo.com*

Background: Childbearing and population growth trend , has undergone many changes in recent years. On the issue of population decline, several factors have contributed and the most important institution in this area is the family.Thus, with considering the importance and necessity of having related information, the researcher attempted to asses the

attitudes of young people near the marriage about childbearing in Iran universities health centers .

Methods: This survey was done by using questionnaire made by Ministry of Health in four sections about demographic, economic, social and cultural factors .Collected data were analyzed by descriptive statistics and one way ANOVA by using spss18 .

Result: Having two children was ideal for the majority of men and women. There was no significant relationship between age of marriage and childbearing. There was no significant relationship between the number of desired children and the level of young people education . There was no significant relationship between job activity of young people and ideal number of children. There was a significant relationship between the interest for parenthood and desired number of children.

Conclusion: The remarkable thing is that all the women in the study, wish to have at least one child. The average desired number of children was 2.23 in men and 2.06 in women.It seems that young people in the study have no belief to one-child policy and despite all of effective factors in decreasing fertility , they tend to have more than 2 children yet.

Keywords: Family, Fertility, Childbearing

P342: Correlation between postpartum depression and quality of life after delivery: a follow up study

Zohreh Sadat [1] , Farzaneh Saberi [2] , Masoumeh Abedzadeh kalahroudi [3]

1- Department of Midwifery, Kashan University of Medical Sciences, Kashan, Iran
2- Department of Midwifery, Kashan University of Medical Sciences, Kashan, IR Iran
3- Department of Midwifery, Kashan University of Medical Sciences, Kashan, IR Iran

Corresponding Author: *Department of Midwifery, Kashan University of Medical Sciences, Kashan, Iran, email: sadat_z2003@yahoo.com*

Background: Postpartum depression (PPD) is a common problem after child's birth and may influence the quality of life (QOL). Investigation of postpartum QOL and depression can be useful for better care for mothers and improvement of their well-being.

Methods: In a prospective study, women who had experienced child's birth with and without PPD were recruited in Kashan-Iran. Data collection was conducted at two assessment points: second month (n = 321) and fourth month (n = 300) postpartum. Based on EPDS, a score of 13 or more was defined as PPD. Mean scores of SF-36 questionnaire were compared between women with and without PPD at two assessment points and within each group from the first to the second assessments. Moreover, correlation between scores of EPDS and scores of life quality dimensions were evaluated.

Result: Differences in seven out of eight mean scores of QOL dimensions (except role-physical) between depressed and non-depressed women at the first and the second assessments were significant. Results of changes in mean scores of QOL dimensions from the first to the second assessments in each group showed that non-depressed women scored higher in all of eight dimensions with significant differences in two dimensions. There were significant negative correlations between EPDS scores and scores of seven out of eight SF-36 sub-scales (except role-physical).

Conclusion: The findings demonstrated that postpartum depression leads to lower life quality at second and fourth months postpartum. Integration of PPD screening into routine postnatal care is recommended.

Keywords: Health, Mental health, Depression Postpartum

P343: The study of self-concept and self discrepancy among women receiving and donating oocyte who referred to Royan infertility center in 2014

Marziye Reisi [1] , Ziba Taghizadeh [2] , Anooshiravan Kazemnejad [3]

1- Faculty of Nursing and Midwifery School,Shahrekord University of Medical Sciences, Shahrekord, Iran
2- Faculty of Nursing and Midwifery School,Tehran University of Medical Sciences, Tehran, Iran
3- Faculty of Biostatistics, School of Medical Sciences, Tarbiat Modarres University, Tehran, Iran

Corresponding Author: *Faculty of Nursing and Midwifery School,Shahrekord University of Medical Sciences, Shahrekord, Iran email:mrz.reisi@gmail.com*

Background: A technology for fertility assistance is the use of donated oocytes. Although the data about medical aspects of this process is available, the knowledge of psychological affairs related to this therapy is limited. Self-concept and self discrepancy are able to investigate the psychological aspects of every person and therefore, we decided to study these measures on women who receive and donate oocyte.

Methods: In this cross-sectional investigation, carried out in 2014, 53 women were divided randomly into two groups including donors and receivers. The data were collected by a three part questionnaire including demographic questions, self-concept scale and self discrepancy scale questions (consisting of “ideals” and “have to be” self discrepancy data). The data were analyzed through SPSS19 and by use of statistical tests including Kruscal-wallis and ANOVA.

Result: The mean age of the cases in receiving and donating groups was 32.6±5.3 and 29.33±3.7, respectively. These two groups did not show any significant difference in their demographical characteristics. The self-concept and self discrepancy data were poor. There was no significant difference between the two groups regarding the mean scores of self-concept data (p=0.572), whilst, there was a significant difference between the two groups regarding the "have to be" part of self discrepancy data (p=0.019). But no significant difference was found between the two groups about the "ideal" part of the self discrepancy data (p=0.22).

Conclusion: According to the achieved results, the officials should provide supportive psychological programs for infertile women receiving oocyte. It is also necessary to take some measures for evaluating the emotional aspects of oocyte recipients.

Keywords: Oocyte donor women, Oocyte recipient women, Self discrepancy, Self-concept

P344: Effectiveness of mindfulness-based cognitive therapy on improvement of stress and infertility in infertile women undergoing IVF

Afsaneh Dortaj [1] , Atousa Mehdizadeh [2] , Hengameh Dortaj [3] , Hasan Bahari [4]

1- Dubai university, Dubai, UAE
2- Ph.D student, health psychology, Dubai university, Dubai, UAE.
3- Msc student, Department of Biology & Anatomy, Faculty of Medicine, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.
4- Msc student, Department of Biology & Anatomy, Faculty of Medicine, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.

Corresponding Author: *Hengameh Dortaj, Department of Biology and Anatomy, Faculty of Medicine, Shahid Sadoughi University of Medical Sciences, Yazd, Iran Email: Hengameh.dourtaj@gmail.com Tel: 00971508965235*

Background: Infertility is a major life crisis and can cause stress and the formation of irrational cognitions for fertility in infertile women. Mindfulness-based cognitive therapy (MBCT) is a form of psychotherapy based on cognitive strategies, metacognitive behavior to reduce stress and help those affected by irrational cognitions. This study aimed to investigate the effect of a mindfulness-based cognitive therapy on improvement of perceived stress and irrational cognitions related to fertility in infertile women undergoing IVF treatment.

Methods: This clinical trial with pre-test - post-test was done on infertile women referred to the Reproductive Health Research Center. 24 infertile women underwent irrational cognitions questionnaire related to childbearing and infertility questionnaire had earned high marks, with the sample randomly divided into experimental and control groups. The experimental group for 8 sessions of 2 hour received training in mindfulness-based cognitive therapy. The control group did not receive any mental health services. Those two questionnaires were completed before and after the intervention. Data were analyzed by SPSS and P

Result: There were no significant differences between the experimental and control groups in terms of reduction of perceived stress of infertility, improvements in the recognition of irrational for childbearing between two groups.

Conclusion: Teaching mindfulness-based cognitive therapy on improvement of perceived stress and irrational cognitions related to fertility in infertile women undergoing IVF treatment is effective.

Keywords: Cognitive therapy, Infertility, IVF, Mindfulness, Stress

P345: Relationship between stress, anxiety and depression and the coping responses of infertile women in Kermanshah

Sayyed Ali Mousavi [1] , Parvin Almasi [2] , Saeedeh Shahbazin [3]

1- Psychology Group, Farabi Hospital, Kermanshah University of Medical Sciences, , Kermanshah, Iran
2- Psychology BA
3- Corresponding :Ph.D. student of Demography, University of Yazd, Yazd, Iran,

Corresponding Author: *Yazd University, Yazd, Iran, email: saeedehshahbazin2@gmail.com*

Background: The purpose of accomplishing the current research was to investigate the relationship between stress, anxiety and depression caused by infertility diagnosis and coping responses of the infertile women of Kermanshah.

Methods: The current research is from the kind of correlation studies. The DASS-42 questionnaire and the questionnaire of coping responses of Bilinges and Mouse (1981) have been used. The statistical sample of this study was 126 females who were under treatment as infertile women and the obtained results have been analyzed through SPSS-16 software.

Result: The research's findings indicate there are meaningful relationships between psychological disorders of stress, anxiety and depression with the coping avoidance and emotion- focused strategies. There are meaningful relationships between stress and coping avoidance responses ($p = 0.008$ & $r = 0.234$), depression, stress and coping avoidance responses ($p = 0.001$ & $r = 0.382$), between depression and coping emotion – focused responses ($p = 0.001$ & $r = 0.322$), and between anxiety and coping emotion – focusing responses ($p = 0.019$ & $r = 0.208$).

Conclusion: It can be expressed the examined infertile women become very anxious and stressful when dealing with their infertility diagnosis, while experiencing very high depression level. It seems that the stress, anxiety and depression amount of infertile women is from the important factors influencing the use of emotion - based coping strategies of the infertile women.

Keywords: Anxiety, Coping responses, Stress, Infertility

P346: The marital adjustment and and thinking styles in infertile women

Solmaz Ghanbari-Homayi [1] , Mojgan Mirghafourvand [2] , Azizeh Farshbaf-Khalili [3] , Arezoo Moeeni [4]

1- Students' Research Committee, Nursing and Midwifery Faculty, Tabriz University of Medical Sciences, Tabriz, Iran
2- Assistant Professor of Midwifery Group, Nursing and Midwifery Faculty, Tabriz University of Medical Sciences,Tabriz, Iran
3- Ph.D. by Research Student, Health Services Management Research Center, Nursing and Midwifery Faculty, Tabriz University of Medical Sciences,Tabriz, Iran.
4- Students' research committee, Traditional medicine faculty, Tabriz University of Medical Sciences, Tabriz, Iran.

Corresponding Author: *Students' Research Committee, Nursing and Midwifery Faculty, Tabriz University of Medical Sciences, Tabriz, Iran, email: narvan_s10@yahoo.com*

Background: Infertility is a global problem that inflicts serious damage to the body's reproductive health. This study aimed to determine the status of marital adjustment and its relationship with thinking styles in infertile women referred to Alzahra hospital of Tabriz, from August until October 2014.

Methods: This cross-sectional study was conducted on 160 infertile women (aged 15-49 years). Samples were selected based on census. Data were collected by Dyadic Adjustment Scale (DAS), Sternberg's thinking style scale and socio-demographic questionnaire. Pearson correlation test was used to explore the association between thinking styles and marital adjustment.

Result: The mean scores of marital adjustment in infertile women was 100.0 ± 22.3 from possible range score of 0-151. There was a moderate correlation between marital adjustment with legislative thinking style ($r=0.47$) and judicial thinking style ($r=0.34$) and low correlation between marital adjustment with executive thinking style ($r=0.28$).

Conclusion: The findings of this study show that correlation of legislative and judicial thinking style with marital adjustment is more than executive thinking style. The findings of this study can be used by consultants to inform the women of their thinking style, and its impact on marital adjustment and psychological support through adjustment or changing

current thinking style in order to promote women's marital.

Keywords: Infertile women, Thinking style, Marital adjustment

P347: Effects of increasing sex hormones, oxytocin, ß- endorphin, adrenaline, cortisol and prolactin, on behavior during pregnancy

Ali Motamedi Motlagh [1] , Hedie Hosseini Tara [2] , Safoora Hedaiati [3]

1- Islamic Azad University, Babol Branch, Mazandaran, Iran
2- School of Midwifery and Nursing, Islamic Azad University, Babol Branch, Mazandaran, Iran
3- MSc student of Nutrition Science, School of Public Health, University of Medical Science, Kermanshah, Iran

Corresponding Author: *Ali Motamedimotlagh, No. 90, Aftab 64, Imam Khomeini St., Amol, Iran, Email: alimotamedi72@yahoo.com*

Background: Hormonal changes during pregnancy and childbirth and postpartum period can cause various effects on function of some parts of body such as various brain centers. So, studying hormones that affect the physiology of behavior is so important.

Methods: We have done a review in several electronic databases such as PupMed and Google scholar. The following keywords were used alone or in combination: Pregnancy, Hormonal changes, Behavior physiology, sex steroids.

Result: Oxytocin plays a key role in parturition and facilitated milk expulsion. It also improves modification of many social behaviors like confidence, sympathy, adaptability, and appearance of maternal behaviors, by influencing various brain centers. Increasing levels of ß- Endorphin at the last days of pregnancy improves environmental adaptation and pain tolerance. At that time adrenaline and noradrenaline release increases and makes euphoria, happiness and excitement. Cortisol secretion by adrenal glands increases during pregnancy and inhibits libido. Also, increase in sex steroids can affect many physiological behaviors such as appetite, learning, memory, pain, anxiety and motor behavior control. For example, estrogens (estradiol, estrone and estriol), secreted by ovaries, adrenal glands, and placenta, inhibit appetite center, but the rise of progesterone level during pregnancy, strongly stimulates it. New studies show that prolactin has significant role in maternal behavior, like oxytocin, estrogens and progesterone. This study tried to investigate the effects of hormonal changes on pregnants' behaviors.

Conclusion: Considerable behavioral changes are seen during pregnancy which is often caused by changes in levels of various hormones.

Keywords: Behavior physiology, Hormonal changes, Oxytocin, Sex steroids, Pregnancy

P348: A review of psychosocial factors predictive of infertility treatment discontinuation

Zeinab Hamzeh Gardeshi [1] , Soghra Khani [2] , Azam Emami [3]

1- Mazandaran University of Medical Sciences, School of Nursing and Midwifery Nasseibeh, Sari, Iran
2- Reproductive health and midwifery group, Mazandaran University of Medical Sciences, School of Nursing and Midwifery Nasseibeh, Sari, Iran
3- Member of Student Research Committee, School of Nursing and Midwifery Nasseibeh, Sari, Iran

Corresponding Author: *Azam Emami, Member of Student Research Committee, School of Nursing and Midwifery Nasseibeh, Sari, Iran, email: Emami.azam371@gmail.com*

Background: Infertility is the fourth stressful life event after father's death, death of the mother and wife infidelity is the psycho-social aspects of many. Although the chances of couples undergoing infertility treatment is up to 72% or higher, most of them to achieve a live birth choose to discontinue treatment. The impression of many health care professionals and the general public is that infertility treatment should be crossed out for three reasons: pregnancy-doctor refused further treatment due to an adverse or poor prognosis and end of treatment response, but recent research supports that psychosocial factors play an important role in ensuring patients to discontinue treatment. Our review aimed to review the socio-psychological factors predictive of infertility treatment.

Methods: The present narrative review, using Mesh and Text word, and the key words identified the bases, Springer, SID, Iranmedex, Magiran, Pubmed, Google scholar, Cochrane, science Direct Search journals. 107 articles were obtained in the initial search and duplicate articles unrelated to the research question

were filtered out, and finally 62 articles were entered into the study.

Result: The findings of the study were organized into three categories: 1. the reasons for infertility treatment discontinuation; 2. strategy coping and adaptation as a way to continue the treatment of infertility; 3. continuation of medical interventions and the role of midwife advisers.

Conclusion: The findings of this review suggested that more attention to the care and treatment of psychological aspects of infertility treatment should be paid and the doctor and the therapist's understanding of the disease is important.

Keywords: Fertility, Infertility, Psycho-social, Discontinuation of therapy, Infertility counseling

P349: Iranian midwives viewpoint on application of full surrogacy

Minoo Ranjbar [1]

1- Department of Midwifery,Bonab Branch,Islamic Azad University,Bonab,Iran

Corresponding Author: *Minou Ranjbar, Islamic Azad University, Bonab Branch, Bonab, Iran, Email: Minooranjb@yahoo.com*

Background: Surrogacy is one of the controversial treatment methods in the field of infertility. Therefore, it is essential to obtain viewpoints of different groups of people towards this method, especially those who are somehow involved in treatment of infertile women. There is lack of knowledge regarding vision of midwives about surrogacy method in literature. The aim of this study was to determine the viewpoints of midwives about surrogacy at health centers in a town in North West of Iran.

Methods: In this study, 108 midwives were employed in health centers in a town in North West of Iran. Data was collected using women's demographic characteristics and questionnaires containing five items including religious matters and the legal conditions of surrogacy, children born with this method, the surrogate mother and willing to use surrogacy.

Result: The lowest score of attitudes was obtained about legal and religious aspects and tend to use a surrogate and the most positive attitudes was for children born with surrogacy and surrogate mother. Also, the overall score of midwives in this study was 3.21 (from 5).

Conclusion: Midwives participating in the study had negative attitude towards surrogacy, which can be an obstacle in order to use this method.

Keywords: Attitude, Full surrogacy, Iran, Midwife, Surrogacy

P350: Psychological aspects of medical waiting period of assisted reproductive techniques in infertile women undergoing IVF

Marzieh Ghasemi [1] , Masome Kordi [2] , Nafise Androun [3]

1- Student Research Committee, Faculty of School of Nursing and Midwifery , Mashhad University of Medical Sciences, Mashhad, Iran
2- Assistant professor and faculty member, Department of Midwifery, School of Nursing and midwifery, Mashhad University of MedicalSciences, Mashhad, Iran.
3- Master of conseling in Midwifery .Student Research Committee, Faculty of School of Nursing and Midwifery , Mashhad University of Medical Sciences, Mashhad, Iran.

Corresponding Author: *Marzieh Ghasemi: Email: ghasemim931@mums.ac.ir*

Background: IVF treatment period in infertile women is one of the most stressful events of life experiences . Also, most women reported medical waiting period of IVF treatment (the time interval between embryo transfer until pregnancy test) is the most stressful event in IVF treatment period. Medical waiting period of IVF treatment is uncertain, uncontrollable, unpredictable and irreversible. This study aimed to determine psychological aspects of medical waiting period of assisted reproductive techniques in infertile women undergoing IVF.

Methods: Electronic searches in the period 1990 to 2015 through databases Pubmed, SID,proquest Google scholar using key words (Infertility, IVF, Anxiety, Medical waiting period, Depression, Coping strategies) alone and in combination were performed.

Result: 15 articles including one study, 6 trials in this case were finally assessed and the results showed that waiting period causes psychological reactions, stress, anxiety and depression.

Conclusion: It can be concluded that medical waiting period of IVF treatment caused distress in infertile women.

Keywords: Infertility, IVF, Psychological aspects, Medical waiting period

P351: The association between coping strategies with psychological distress and success of IVF treatment

Masome Kordi [1] , Marzieh Ghasemi [2] , Nafise Androun [3]

1- Department of Midwifery, School of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran
2- Master of conseling in Midwifery .Student Research Committee, Faculty of School of Nursing and Midwifery , Mashhad University of Medical Sciences, Mashhad, Iran.
3- Master of conseling in Midwifery .Student Research Committee, Faculty of School of Nursing and Midwifery , Mashhad University of Medical Sciences, Mashhad, Iran.

Corresponding Author: *Masome Kordi, Email: kordim@mums.ac.ir*

Background: The World Health Organization infertility as a public health problem in the world is named. Infertility as an individual crisis puts a lot of stress on infertile couples and can threaten their mental health in various ways. Coping strategies included actions that people control and handle dangerous situations. The use of effective coping strategies for adjustment infertility is required. This study aimed to determine the association between psychological distress and coping strategies with success rates of IVF treatment for infertile women.

Methods: Electronic searches in the period 1990 to 2015 through databases Pubmed, SID,proquest Google scholar using key words ((Infertility,IVF, Anxiety, Depression ,Coping strstegies)) alone and in combination were performed.

Result: Search obtained at the end of the 15 papers, including 7 descriptive studies, 6 clinical trial studies was finally assessed and the results showed there were relationship between distress and coping strategies with the success rate in the treatment IVF.

Conclusion: According to the results, the relationship between coping strategies and successes of infertility distress is necessary to infertile couples with infertility in order to learn effective coping strategies.

Keywords: Anxiety, Coping strstegies, Depression, IVF, Infertility

P352: Effectiveness of group counseling with solution-oriented approach on stress management during pregnancy

Akram Aslani

Corresponding Author: *Akram Aslani, N0 22, Khayyam St, 17 Shahrivar Av, Bojnoord, North Khorasan, Iran, email: akramaslani92@gmail.com*

Background: Pregnancy is a natural thing for women, while at a same time it is a stressful experience. Therefore, the purpose of this study was studying the effectiveness of group counseling with solution-oriented approach on stress management during pregnancy.

Methods: This is a semi-experimental study which is conducted by using pretest-posttest design and control group with one-month follow-up. 60 pregnant women who referred to health centers in Bojnourd city who had high scores in Cohen Perceived Stress Questionnaire (pss-14) were enrolled in the study and randomly were divided into two experimental (n = 30) and control (n = 30) groups. This intervention was done during four 90-minute sessions weekly for experimental group. The Pss-14 questionnaire was completed in the pre-test, post-test and follow-up levels. The data was analyzed by SPSS-18 software.

Result: The mean of experimental group questionnaire in post-test and follow-up levels was significantly lower than the mean of stress scores in the control group ($p< 0.012$).

Conclusion: According to the results of this study, group counseling with solution-oriented approach on stress management can be used as a method to decrease stress during pregnancy by midwifery consultants in health centers. The mentioned intervention can be the treatment, prevention, screening, diagnosis, or quality of life.

Keywords: Group counseling, Solution-oriented approach, Stress management, Pregnancy

P353: Relation between sexual self-concept and first sexual experience in married women

who referred to the medical health centers in Tehran University of Medical Sciences

Maryam Modarres [1]

1- Tehran University of Medical Sciences,Nursing and Midwifery care Research Center membership

Corresponding Author: *Maryam Modares, Nursing and Midwifery Faculty, Tehran University of Medical Sciences, Tehran, Iran, email: modarres@sina.tums.ac.ir*

Background: Sexual self-concept provides an understanding of the sexual aspects of a person that is very significant in women life. The aim of this study was to determine the relationship between sexual self-concept and first sexual experience in married women.

Methods: This cross sectional research was conducted by attendance of 365 women in reproductive age that referred to the medical health centers in Tehran University of Medical Sciences. Random clustering sampling was used for sampling. Data collection instruments included demographic, sexual self-concept and attachment questionnaires.The Research Ethics Committee of the University confirmed the study with no.93 / 130/1540.

Result: Results indicated that samples gained the highest score in positive sexual self-concept (120.73 ±22.70). There was a statistically significant correlation (p

Conclusion: According to this survey, women have appropriate context for sexual direction in post marriage. So taking into account the relative factors studied in our survey, informing with respect to their characteristics, can improve women sexual health.

Keywords: Related factors with sexual self-concept, Women's health, Sexual self-concept

P354: The effect of body mass index on sexual function in infertile women

Safieh Jamali [1] , Zahra Mosallanezhad [2] , Fatmeh Zarei [3]

1- Research center for social determinants of health, Jahrom University of Medical Sciences, Jahrom , Iran
2- Department of Nursing, Faculty of Nursing and Midwifery, Jahrom University of Medical Sciences, Jahrom, Iran
3- BSc, Department of Psychology, Department of Education Grash, Grash, Iran.

Corresponding Author: *Safieh Jamali, email: SAFIEH_JAMALI@YAHOO.COM*

Background: Infertility as the bitterest life experience can affect sexual function. Infertility is in fact a reproductive health problem. Many studies have shown agitation, stress, depression, marital dissatisfaction, and sexual dysfunction as the psychological outcomes resulting from infertility. Many factors, including body mass index, influence the female sexual function.The present study was focused on body mass index and sexual function. This study aimed to assess the prevalence of female sexual dysfunction and the relationship between sexual function and body mass index in Iranian infertile women who had attended the infertility clinic.

Methods: This cross-sectional study was conducted on 502 infertile women who had attended an infertility clinic in Iran between April 2012 and December 2012. The infertile cases were classified into three groups according to the body mass index: 20-24.9 (Group I), 25-29.9 (Group II), and >29.9 and above (Group III). In addition, Female Sexual Function Index (FSFI) questionnaire was used in order to assess the sexual problems in six different domains of sexual desire, arousal, lubrication, orgasm, satisfaction, and pain. Finally, the data were entered into the SPSS statistical software (v. 16) and analyzed by descriptive statistics, ANOVA, and student's T test.

Result: This study was conducted on 502 infertile women. The mean age of the studies women was 30.95±6.80 years. The results showed that 430 subjects (87.1%) had sexual dysfunction. Furthermore, the rate of sexual dysfunction among the infertile women was reported as 23.30%, 31.47%, and 45.23% in groups I, II, and III, respectively. Considering body mass index, the Female Sexual Function Index (FSFI) score was 21.65±1.70 in the women with normal weight, 18.08±1.52 in overweight women, and 12.21±3.62 in obese women and the difference was statistically significant (p

Conclusion: The prevalence of sexual dysfunction was quite high in infertile women, which might be due to the lack of knowledge about marital issues and lack of training in the society. If body mass index is too high, it can have a great effect on fertility. In this study, being overweight and obese based on body mass index had a negative effect on the infertile woman's sexual function.

Keywords: Body mass index, Female Sexual Function Index, Obesity, Infertility

P355: Sexual dysfunction in infertile women

Nahid Golmakani [1] , Malihe Amirian [2] , Reza Mazlom [3] , Zahra Zare [4]

1- Faculty of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran
2- Department of Obstetrics and Gynecology, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran.
3- Faculty of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran.
4- Faculty of Nursing and Midwifery, Sabzevar University of Medical Sciences, Sabzevar, Iran

Corresponding Author: *Zahra Zare, Faculty of Nursing and Midwifery, Sabzevar University of Medical Sciences, Sabzevar, Iran, email: zare1984@yahoo.com*

Background: Sexual problems have different effects on the life of people by influencing their interpersonal and marital relationships and satisfaction. Relationship between sexual dysfunctions and infertility can be mutual. Sexual dysfunction may cause difficulty in conceiving but also attempts to conceive, may cause sexual dysfunction.

Methods: In this cross-sectional study, 110 infertile couples referring to Montasarieh Infertility Clinic and 110 fertile couples referring to five healthcare centers in Mashhad were selected by class cluster sampling method. Data collection tools included demographic questionnaire and Glombok-Rust Inventory of Sexual Satisfaction. Data were analyzed through descriptive and analytical statistical methods by SPSS.

Result: There was no significant difference in total score of sexual problems and other dimensions of sexual problems (except infrequency) in fertile 28.9 (15.5) and infertile 29.0 (15.4) women. Fertile women had more infrequency than infertile women (p=0.002).

Conclusion: There was no significant difference between fertile and infertile women in terms of sexual problems. Paying attention to sexual aspects of infertility and presence of programs for training in sexual skills seem to be necessary for couples.

Keywords: Fertile, Infertile, Women, Sexual problems

P356: Comparison of sexual experiences and problems in nullipar women referred to health centers of Ramsar in normal vaginal delivery or cesarean in the first 6 months after delivery in 2013-2014

Samiyeh Kazemi [1]

1- Nursing and Midwifery, Tabriz University, Tabriz, Iran

Corresponding Author: **Kazemi, Samiyeh, Nursing and Midwifery, Tabriz University, Tabriz, Iran, email: kazemi.samiyeh@gmail.com*

Background: Postpartum changes in sexual relationships create significant problems in the marital life and the aim of this study was to look after this change.

Methods: This study was a cross-sectional one on 800 nulliparous mothers who were selected as the study sample in 6 months after delivery. In this study, data collection tools included demogeraphic tools and questionnaire. T-test was used to evaluate the quantitative variables and for qualitative variables chi-square test and Fisher's exact test were used and data analysis was performed with 15 SPSS software.

Result: Lak of sexual desire ,discomfort at the site of tear , inadeguate lubrication, the pain near sex and fatigue were more than cs group and the differences were statistically significant ((p=0/002) ,(p=0/004), (p=0/006), (p=0/003), (p =0/007)). Two groups also showed a statistically significant difference (p

Conclusion: According to results, increasing quality care during delivery makes the complications after vaginal delivery to a minimum.

Keywords: Nulliparous women, Sexual experiencies , Sexual problems

P357: The main organs disorders can cause femal infertility : yes or no?

Arezoo Moini Jazani [1] , Ramin Nasimi Doost Azgomi [2] , Solmaz Ghanbari [3]

1- School of Traditional Medicine, Tabriz University of Medical Sciences, Tabriz, Iran
2- School of Traditional Medicine, Tabriz University of Medical Sciences, Tabriz, Iran
3- School of Traditional Medicine, Tabriz University of Medical Sciences, Tabriz, Iran

Corresponding Author: *Arezoo Moini Jazani, School of Traditional Medicine, Tabriz University of Medical Sciences, Tabriz, Iran, Email: dr.moeeni@yahoo.com*

Background: Infertility is a serious health problem by economic, social and emotional consequences. According to WHO, about a quarter of couples in developing countries are suffering from infertility and the prevalence of infertility is between 10 to 15% in different countries. As yet, 25 % of infertilities have no clear cause. Due to uncertainty of about a quarter of the causes of infertility and economic burden of different treatments for couples and the community, revising the causes of infertility with another perspective might be helpful. The aim of this study was to investigate the causes of infertility in traditional Iranian medicine to identify the exact causes of the disease and may offer new model in the diagnosis and treatment of infertility.

Methods: This is a descriptive study done by using Traditional Persian Medicine(TPM) references such as Canon of Medicine, Exire-e-Azam, Zakhireh-e-Kharazmshahi, etc and keywords related to the subject.

Result: Etiologies of infertility were prescribed separately in men and women in TPM resources. According to TPM viewpoints, in addition to oocytes, uterine, ovaries and fallopian tubes disorders, dysfunction of some main organs such as brain, heart, liver and stomach and psychopathy are the causes of female infertility.

Conclusion: Based on TPM theory, there is association between producing healthy oocytes and proper function of main organs in addition to healthy reproductive organs because the basal material of oocytes makes all organs specially in main organs.It seems that emphasis on treatment of main organs diseases like fatty liver,hypertension and psychological disorders may have significant effects on the success of infertility treatment.

Keywords: Infertility, Traditional Persian medicine, Female

P358: The role of environmental factors in the treatment of male infertility

Marzieh Ghasemi [1] , Masome Kordi [2] , Nafise Androun [3]

1- Student Research Committee, Faculty of School of Nursing and Midwifery , Mashhad University of Medical Sciences, Mashhad, Iran
2- Assistant professor and faculty member, Department of Midwifery, School of Nursing and midwifery, Mashhad University of MedicalSciences, Mashhad, Iran.
3- Master of conseling in Midwifery .Student Research Committee, Faculty of School of Nursing and Midwifery , Mashhad University of Medical Sciences, Mashhad, Iran.

Corresponding Author: *Marzieh Ghasemi, Email: ghasemim931@mums.ac.ir*

Background: Infectious agents capable of direct conflict in different parts of the reproductive system affected the performance capabilities of this device blocking successful fertility or pregnancy-induced systemic effects of fertility. Reducing infection risk of infertility is directly related to the patient's age, previous infection, severity of illness. This study aimed to investigate the role of infectious agents.

Methods: Electric search in the period 1990 to 2015 through the databases Pubmed, SID, proquest, Google scholar using key terms (infertility, environmental factors, men) alone and in combination was done.

Result: Search obtained at the end of the 15 articles, included 9 descriptive, 6 clinical trials and they were finally assessed and it was revealed that tobacco consumption was associated with male infertility. It also declines toxins pesticides and can also reduce sperm in some studies of electromagnetic fields since Sertoli cells that secrete steroids lose their normal activities.

Conclusion: Due to the possible effects of environmental factors and their role in infertility, exposure to these environmental factors should be avoided as much as possible.

Keywords: Infertility, Men, Environmental factors

P359: Unintended pregnancy and its adverse social and economic consequences on health system: a narrative review article

Mansoureh Yazdkhasti [1] , Arezoo Pirak [2]

1- Department of Reproductive Health, Tehran University of Medical Sciences, Tehran, Iran
2- Department of Reproductive Health, Tehran University of Medical Sciences, Tehran, IR Iran,

Corresponding Author: *Mansoureh Yazdkhasti, Department of Reproductive Health, Tehran University of Medical Sciences, Tehran, Iran, TUMS N. Eastern Ave., School of Nursing and*

Midwifery, Tehran University of Medical Sciences,Email: mansoyazd@yahoo.com

Background: Unintended pregnancy is among the most troubling public health problems and a major reproductive health issue worldwide imposing appreciable socioeconomic burden on individuals and society. Governments generally plan to control growth of births (especially wanted births as well as orphans and illegitimate births) imposing extra burden on public funding of the governments which inevitably affects economic efficiency and leads to economic slowdown, too. The present narrative review focused on socioeconomic impacts of unintended pregnancy from the health system perspective.

Methods: Following searches of academics ,53 scientific journals were found in various databases including PubMed, EMBASE, ISI, Iranian databases, IPPE, UNFPA (1985- 2013). Original articles, review articles, published books about the purpose of the paper were used. During this search, 20 studies were found which met the inclusion criteria.

Result: Unintended pregnancy is one of the most critical challenges facing the public health system that imposes substantial financial and social costs on society. On the other hand, affecting fertility indicators, it causes reduced quality of life and workforce efficiency. Therefore, lowering the incidence of intended pregnancies correlates with elevating economic growth, socio-economic development and promoting public health.

Conclusion: Recent policy changes in Iran on family planning programs and adopting a new approach in increasing population may place the country at a higher risk of increasing the rate of unintended pregnancy. Hence, all governmental plans and initiatives of public policy must be regulated intelligently and logically aiming to make saving in public spending and reduce healthcare cost inflation.

Keywords: Cost, Economic burden, Health indicators, Reproductive health, Unintended pregnancy

P360: Modeling of socio demographic predictors of sexual function in women of reproductive age, Tabriz, 2013

Mahsa Karkhane [1]

1- Nursing and Midwifery Faculty, Tabriz University of Medical Sciences, Tabriz, Iran

Corresponding Author: *Mahsa Karkhane, Nursing and Midwifery Faculty, Tabriz University of Medical Sciences, Tabriz, Iranmail: mkarkhane55@yahoo.com*

Background: Sexual health is a state of physical, mental and social well-being in relation to sexuality. Sexual dysfunction is a major concern for public health and several factors can affect women's sexual function. This study aimed to determine the status of sexual function and its dimensions and also its socio-demographic predictors in women of reproductive age in Tabriz in 2013.

Methods: This cross-sectional study was conducted on 532 married women of reproductive age. The two-stage cluster sampling method was used. Data were collected by Female Sexual Function Index (FSFI) scale and socio-demographic questionnaire. General liner model analysis was used for modeling of socio-demographic predictors of sexual function.

Result: The mean (standard deviation) score of sexual function was 65.9 (15.8) of the possible range score of 0-100. Prevalence of sexual dysfunction was 66%. Sufficiency of household income for expenses and satisfaction level of spouse were predictors of sexual function in women.

Conclusion: The findings of this study show that the score of sexual function in women is average. With attention to significant impact of the sexual function on health of women and their families, determining the effective factors on sexual satisfaction can assist in strengthening and sustaining families.

Keywords: Socio-demographic predictors, Women of reproductive age, Sexual function

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Tel: +98 (21) 22404144 Ext: 338 , 357 Fax: +98 (21) 22404145
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