MINI GASTRIC BYPASS (MGB)/ ONE ANASTOMOSIS GASTRIC BYPASS (OAGB): FROM THE DARK DAYS TO GOLDEN DAWN



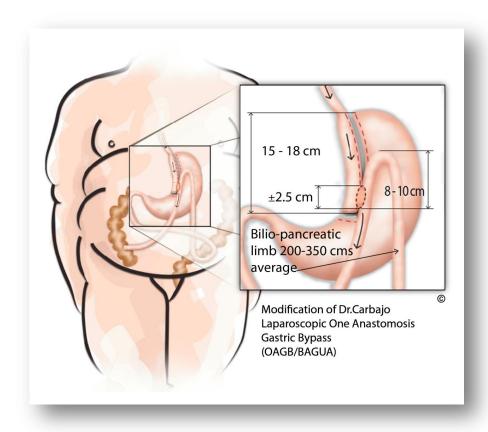
Miguel-A. Carbajo. PhD, MD.

(Director of Center of Excellence for the Study and Treatment of the Obesity and Diabetes, Valladolid, Spain; Member of the International Committee of the European Accreditation Council for Bariatric Surgery; Vice-President of the MGB/OAGB International Club) doctorcarbajo@obesos.info; www.obesos.info

It was in 2001 when Dr. Rutledge reported the first results with 1274 cases concerning a new surgical procedure addressing obesity: MGB¹. For us, bariatric surgeons implementing Roux-en-Y Gastric Bypass (RYGB), this fact was surprising, given the disappearance of two of the RYGB main concepts: the alimentary limb and the jejuno-jejunal anastomosis. Those who, like me, have experienced this surgical procedure for obesity, have encountered serious complications and undesirable effects related to this gastrointestinal model. MGB was born as an easier option, resulting in fewer perioperative and postoperative complications and better weight results, which leaded to greater comorbidities control and higher standard of life quality. However, the ruthless criticism from North American colleagues abruptly ended the initial expectations.

Notwithstanding some publications against this surgical procedure, we decided to investigate in further detail and perform it. We started our surgical activity in 2002, carrying out some surgeries through the MGB procedure. We slightly changed it, partly due to our previous surgical experience and with the aim to avoid or minimise the possible side effects regarding the alkaline reflux and its subsequent issues. In this way, we switched the end-to-side anastomosis for the side-to-side technique; we sutured the biliopancreatic limb to the gastric pouch and we raised it over the anastomosis in order to introduce an anti-reflux factor and avoid the gastric pouch twist. Furthermore, we enlarged the biliopancreatic limp in relation to the intestinal length, so that the pancreatic ferments could be less activated. Each malabsorption should be tailored to the individual needs and obesity typology. This initial group of patients was monitored

with some postoperative controls with endoscopy, pHmetry and esophageal manometry in order to determine the presence of active alkaline reflux. We could confirm that there was no presence of it and the patient's evolution was successful. We coined this MGB modification as OAGB (BAGUA in Spanish) and we subsequently published our first results in 2005².



In 2004, as President of the Congress of the Spanish Society of Obesity Surgery, we invited Dr. Rutledge for the first time to an International event, in which each one stood up for respectively MGB/OAGB. With the aim to summarize, we had a meeting tinged of hard debate and skepticism. We addressed several issues and, eventually, some factors such as fear to reflux, the North American criticism and further consequences curbed the surgical perspective. As a result, we continued fighting alone, struggling in a strained ambience at both national and international levels. However, we multiplied the number of patients and we performed several interventions alongside with a strict and systematic follow-up, gaining therefore experience and good recognition from our patients. It may be noted that we participated in multiple bariatric debate forums advocating within this procedure, despite of the pressure and disagreement. Truthfully speaking, our publishing projects ran into an unbreakable stone wall after Dr. Deitel stopped being Editor-in Chief in Obes Surg. We encountered some difficult "dark years", where we had to face the lack of understanding. Nonetheless, our MGB/ OAGB technique successfully rose to the challenge and seemed to work well, meeting the requirements of weigh control and comorbidities. The procedure was efficient, fast and secure and our patient's happiness was an evidence of

this. It was characterized by its lack of side effects, despite the criticism from some other colleagues, in a framework of ignorance. We had previously experienced some other techniques both in open and laparoscopic approach such as gastroplasty, adjustable gastric band, different models of RYGB and other malabsorptive procedures and it may be noticed that we did not achieve a successful outcome. Due to this reason, we realized that we had finally reached a desirable procedure. We had a technique in our hands that we could perform it in patients, in a framework of efficacy and safety. And this fact light up the way forward.

In 2005 Dr. Lee published the first randomized forecast about RYGB and MBG, making a step change in bariatrics by showing that MGB was equal or superior to Rouxen-Y one³. In the same vein, Dr. Lee's experience with tailored bypass limb according to body weight⁴ was an important contribution, but we were already implementing this principle since 2002. In 2008, MGB procedure was carried out in France, and that same year, we published the OAGB technique with a series of 1.126 patients.⁵ We were undertaking this surgical activity with perseverance and this fact marked the successive progression and allowed to spread the technique worldwide, especially in Europe, India, Asia, Middle East and Latin America. This was partly due to the strong and progressive training activity of Dr. Rutledge and other enthusiastic colleagues, the scientific and logistical support of Dr. Deitel and our continuous internship training program that we have been undertaking over more than twelve years with young surgeons and those interested in further perspective of bariatric and metabolic surgery.

Due to the progressive growth of MGB/OAGB, we could address some further domains with extraordinary effects on metabolic^{6,7} and revisional⁹ surgery, on the elderly¹⁰ and on adolescents¹¹. Dr. Deitel perfectly summarized the essence of this process: "Mini- gastric (one-anastomosis) bypass is becoming a mainstream operation"¹².

Dr. Chevalier held the first two meetings supporting MGB/OAGB in Paris. Then we organized the MGB/OAGB Pre-Congress Courses IFSO Congresses in Montreal and Vienna. But it was in Vienna 2015 when a group of enthusiastic participants at the

congress, under the guidance of Dr. Deitel, took a qualitative leap forwards Bariatric Surgery by creating "MGB/OAGB International Club", setting up a website (www.mgb/oagbclub.org) and disseminating all this useful information through social networks. We subsequently took gradual steps forwards and managed to achieve brilliant results. Dr. Kular was elected Chairman of this new organization; Deitel, Director; Dr. Rutledge, Honorary President and Drs. Musella and



Carbajo, Vice-presidents.

One year later we reached the peak of our young organization with the MGB/OABG Experts Consensus Summit, Annual Conference of International MGB/OAGB Surgeons Club (MGB/OAGB-CON 2016) past August in Gatwick, London. It was attended by more than 150 experts and the program included scientific presentations, videos, panels, 52 abstracts and active debate. Our organization basis and future bylaws are firmly established and has a strong set of values. Our new Chairman, Dr. Musella will hold next year the following Annual Meeting 2017 in Naples (Italy), in the occasion of IFSO European Chapter Congress.

We have progressively achieved successful results but, in order to attain this outcome, we have taken important steps on the long and challenging path, a gratifying path full of hopes. We developed one surgical technique which was harshly criticised in the past, but we made a strong commitment to innovation, as we were certain about its effectiveness and safety, both for us and for our patients. Since we experienced the first outcomes, we precluded other previous performed techniques regarded as first bariatric choice. It was our determination which light up the way forward and allowed us to gain the battle. Nowadays MGB/OAGB is the third most performed surgical technique in the world for Obesity Surgery and Diabetes. We can say that those "dark days" are now forgotten to open the way to a brand new "golden age" for Bariatric and Metabolic Surgery.

References

- 1.- Rutledge R. The mini-gastric bypass: experience with first 1.274 cases. Obes. Surg. 2001;11:276-80.
- 2.- Carbajo M, Garcia-Caballero M, et al. One anastomosis gastric bypass by laparoscopy: results of the first 209 patients. Obes. Surg. 2005;15:398-404.
- 3.- Lee WJ, Yu PJ, et al. Laparoscopic Roux-en-Y versus mini-gastric gypass for the treatment of morbid obesity: a prospective randomized controlled clinical trial. Ann. Surg. 2005;242:20-8.
- 4.- Lee WJ, Wang W, et al. Laparoscopic mini-gastric bypass: experience with tailored bypass limb according to body weight. Obes. Surg. 2008;18:294-9.
- 5.- Chakhtoura G, Zinzindohou F, et al. Primary results of laparoscopic mini-gastric bypass in a French obesity-surgery specialized university hospital. Obes. Surg. 2008:18:1130-3.
- 6.- Carbajo MA, Ortiz J, et al. One anastomosis gastric bypass (BAGUA), assisted by robotic arm: technique and results in 1.126 patients. Cir. Endosc. 2008;1:6-13.

- 7.- Kim MJ, Hur KY,. Short-term outcomes of laparoscopic single anastomosis gastric bypass (LSAGB) for the treatment of type 2 diabetes in lower BMI (<30 kg/m2) patients. Obes. Surg. 2014;24:1044-51.
- 8.- Carbajo MA, Jimenez JM., et al. Outcomes and weight loss, fasting glucose and glycosylated hemoglobin in a sample of 415 obese patients included in the database of the European Accreditation Council for Excellence Centers for Baratric Surgery with Laparoscopic One Anastomosis Gastric Bypass. Nutr. Hosp. 2014;30:1032-8.
- 9.- Bruzzi M, Voron T, et al. Revisional single-anastomosis gastric bypass for a failed restrictive procedure: 5-year results. Surg. Obes. Relat. Dis. 2016;12:240-5.
- 10.- Peraglie C. Laparoscopic mini-gastric bypass in patients age 60 and older. Surg. Endosc. 2016;30:38-43.
- 11.- Carbajo MA, Vazquez-Pelcastre, et al. 12-year old adolescent with supermorbid obesity, treated with laparoscopic one anastomosis gastic bypass (LOAGB/BAGUA): A case report after 5-year follow-up. Nutr. Hosp. 2015;31:2327-32.
- 12.- Deitel M. Mini-gastric (one-anastomosis) bypass becoming a mainstream operation. Bariatric News, issue 18, Dec.2013-page 13.