

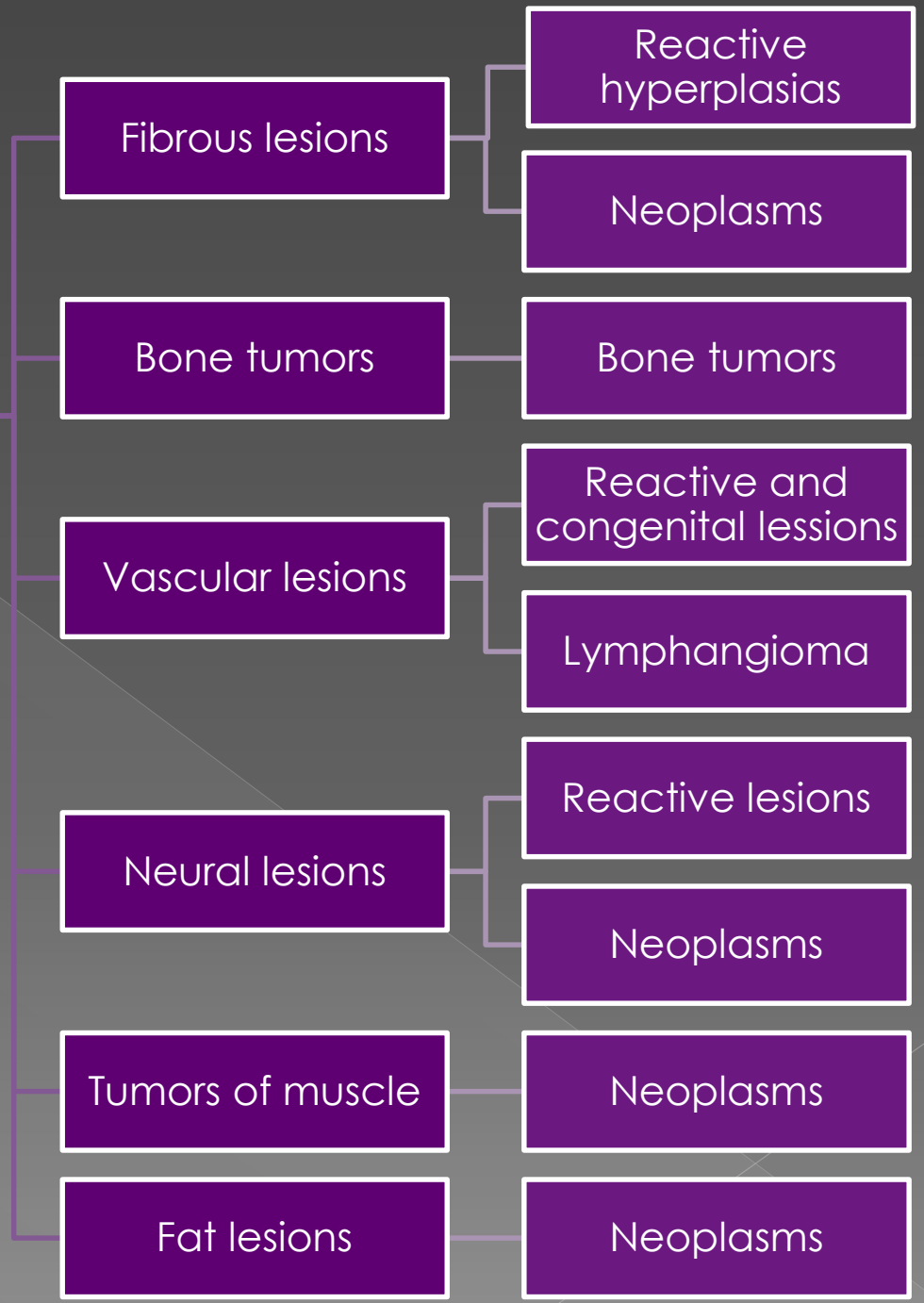
Non odontogenic tumors of mesenchymal origin

By

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Lecturer of Oral Pathology

Non odontogenic mesenchymal tumors



Fibrous lesions

A) Reactive hyperplasia:

- ◉ **Pathogenesis:** Chronic process of repair in response to injury
- ◉ **Clinically:** Submucosal masses which may become secondarily ulcerated, painless as nerve tissue doesn't proliferate.
- ◉ **Colour:** Lighter(collagen) or more red (Well vascularized CT)
- ◉ **TTT:** Surgical excision with removal of irritant

Fibrous lesions

- A) Reactive hyperplasia:
1. Pyogenic granuloma
 2. Peripheral giant cell granuloma
 3. Generalized gingival hyperplasia
 4. Focal fibrous hyperplasia
 5. Denture induced fibrous hyperplasia

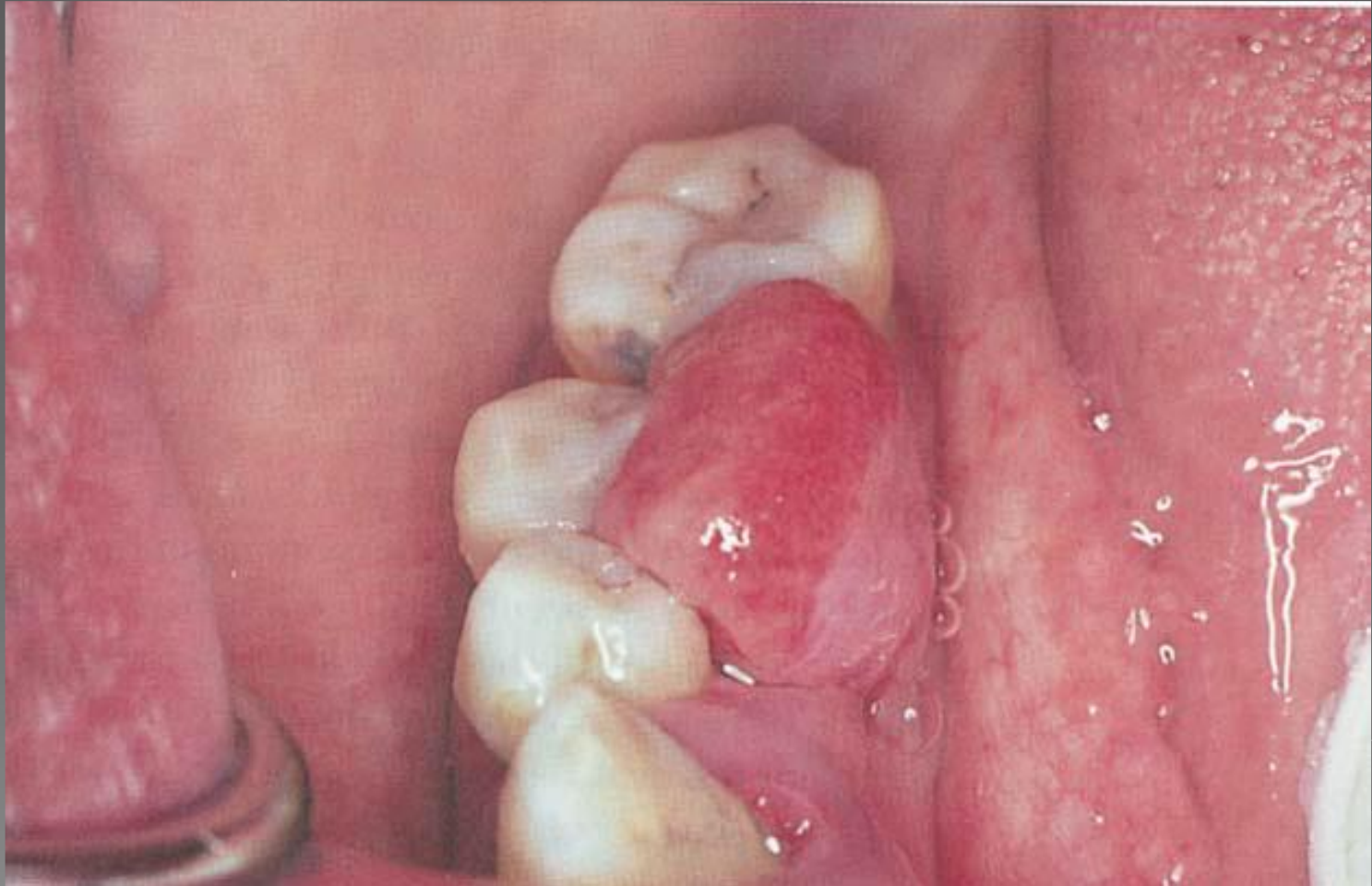
Fibrous lesions

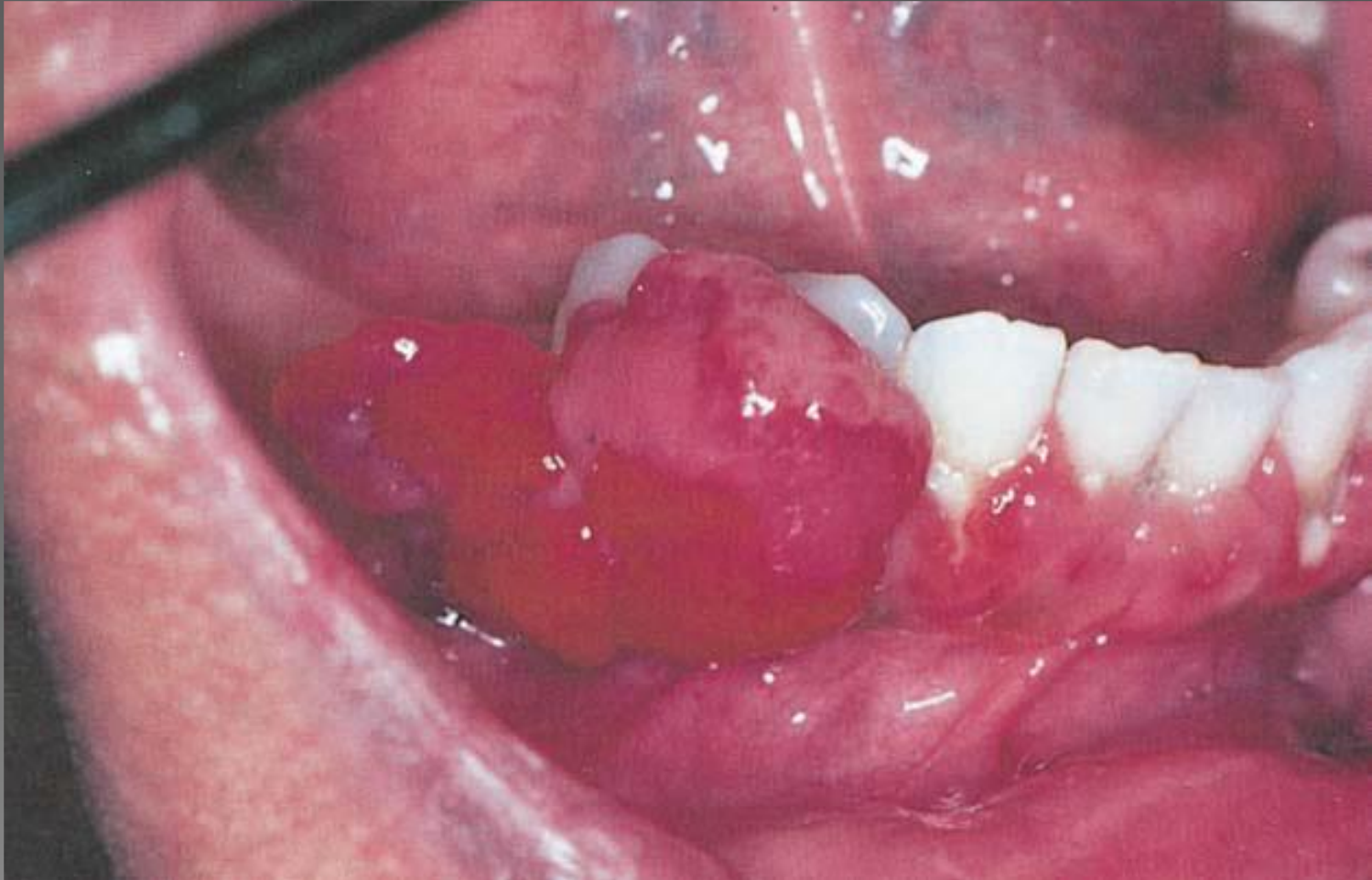
A) Reactive hyperplasia:

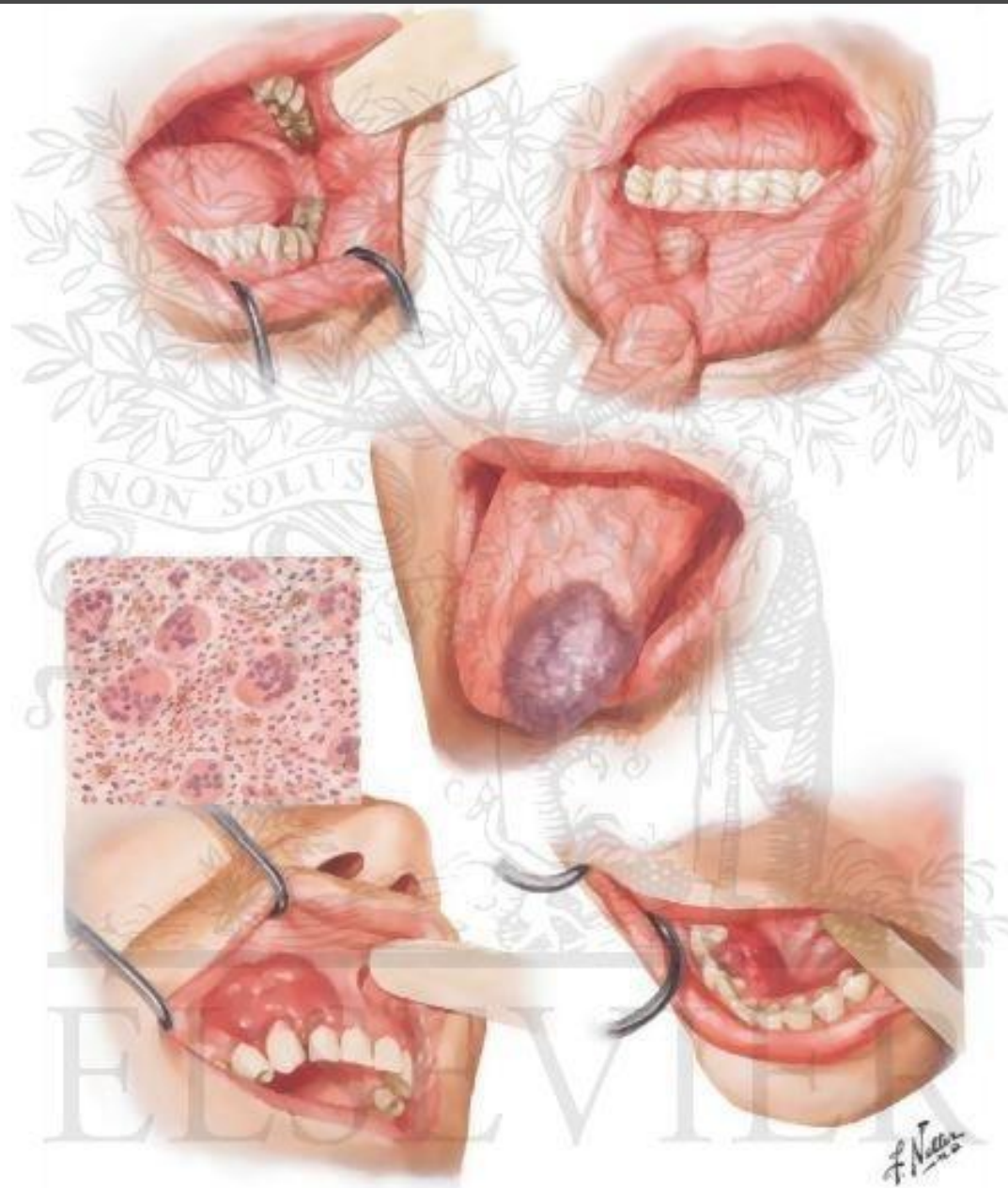
I- **Pyogenic granuloma:**

- Pathogenesis
- Misnomer
- Clinically
 - > Site
 - > Shape
 - > Colour
 - > Size
 - > Variant: Pregnancy tumor
- Histopathology

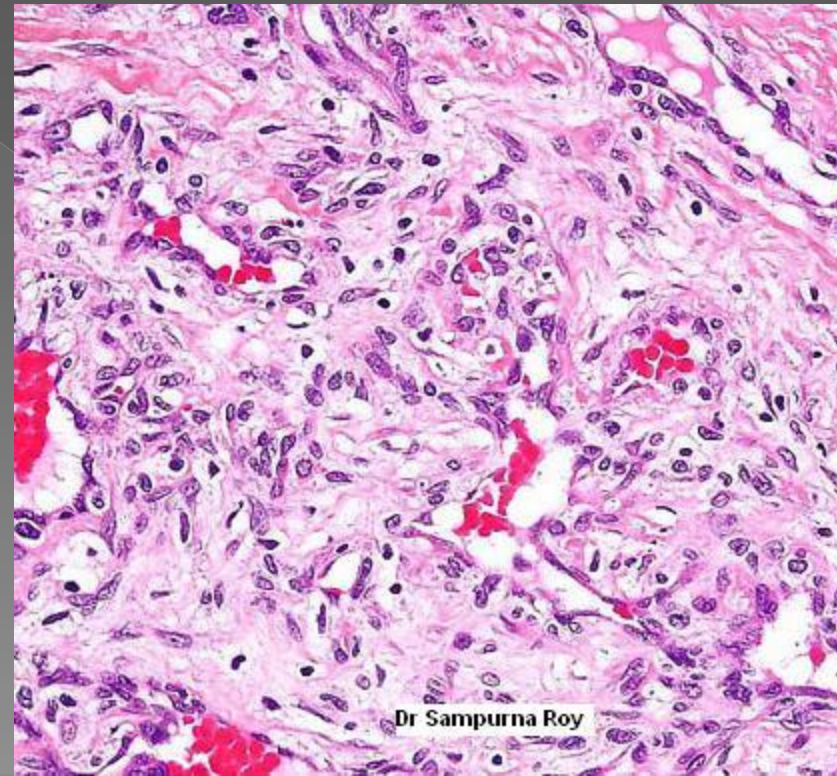
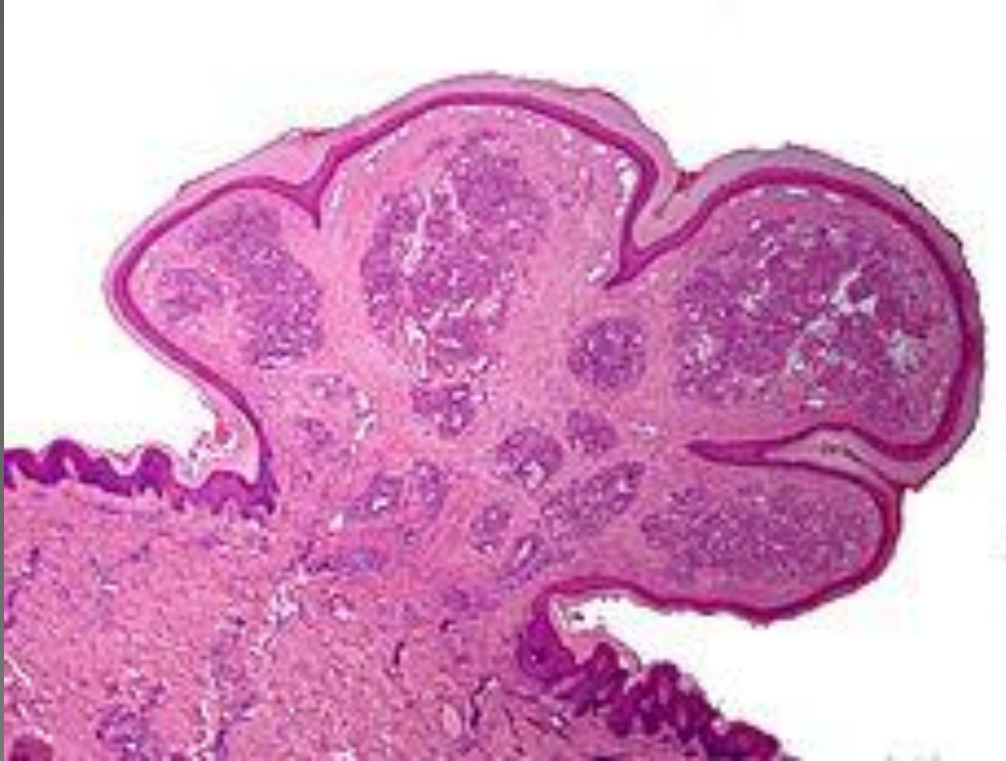






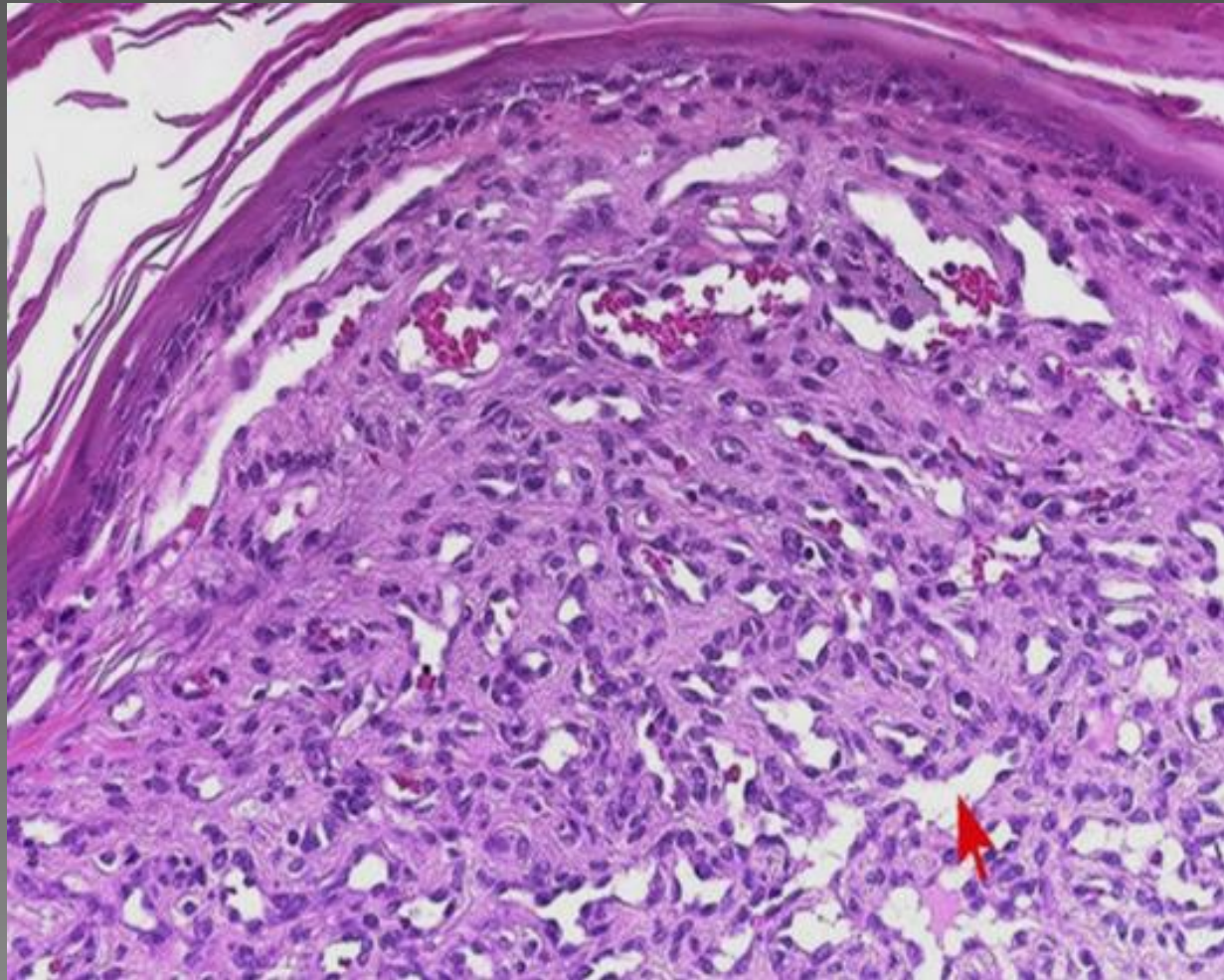


Pyogenic granuloma



Dr Sampurna Roy

Pyogenic granuloma



Fibrous lesions

A) Reactive hyperplasia:

II- **Peripheral giant cell granuloma PGCG:**

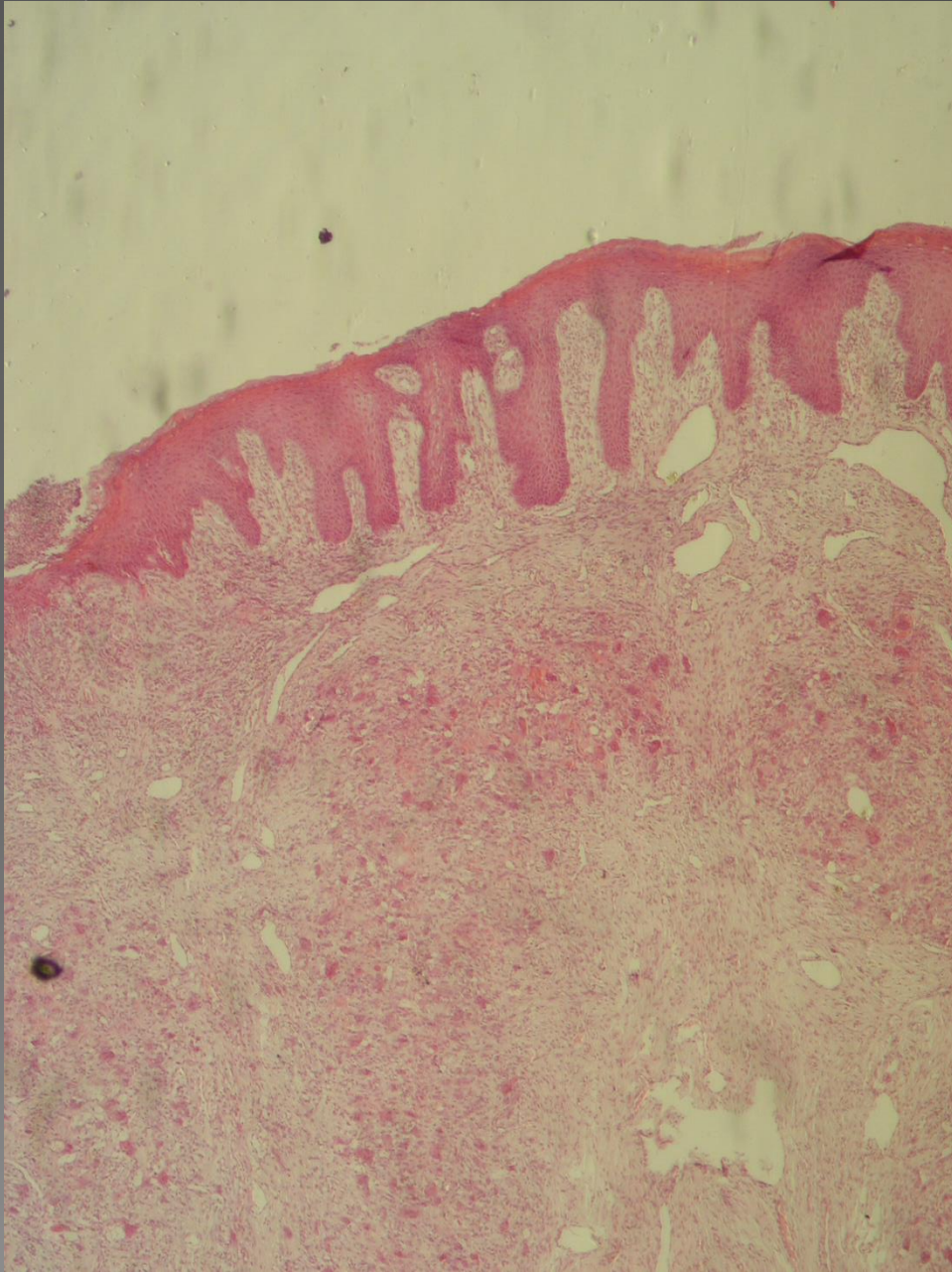
- Etiology
- Clinical features
 - Site
 - Origin
 - Shape
 - Size
- X-ray
- Histopathology

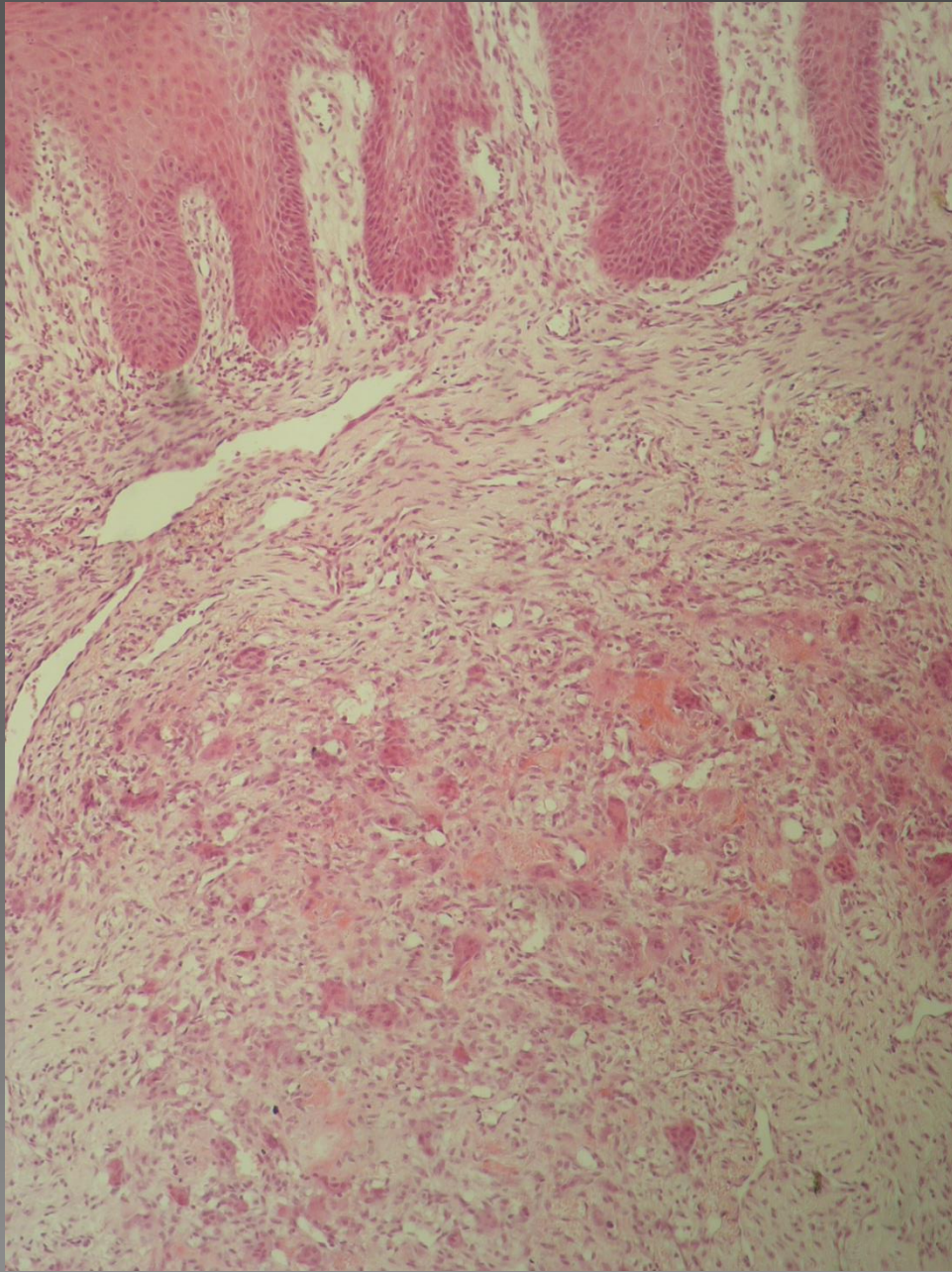


PCGC



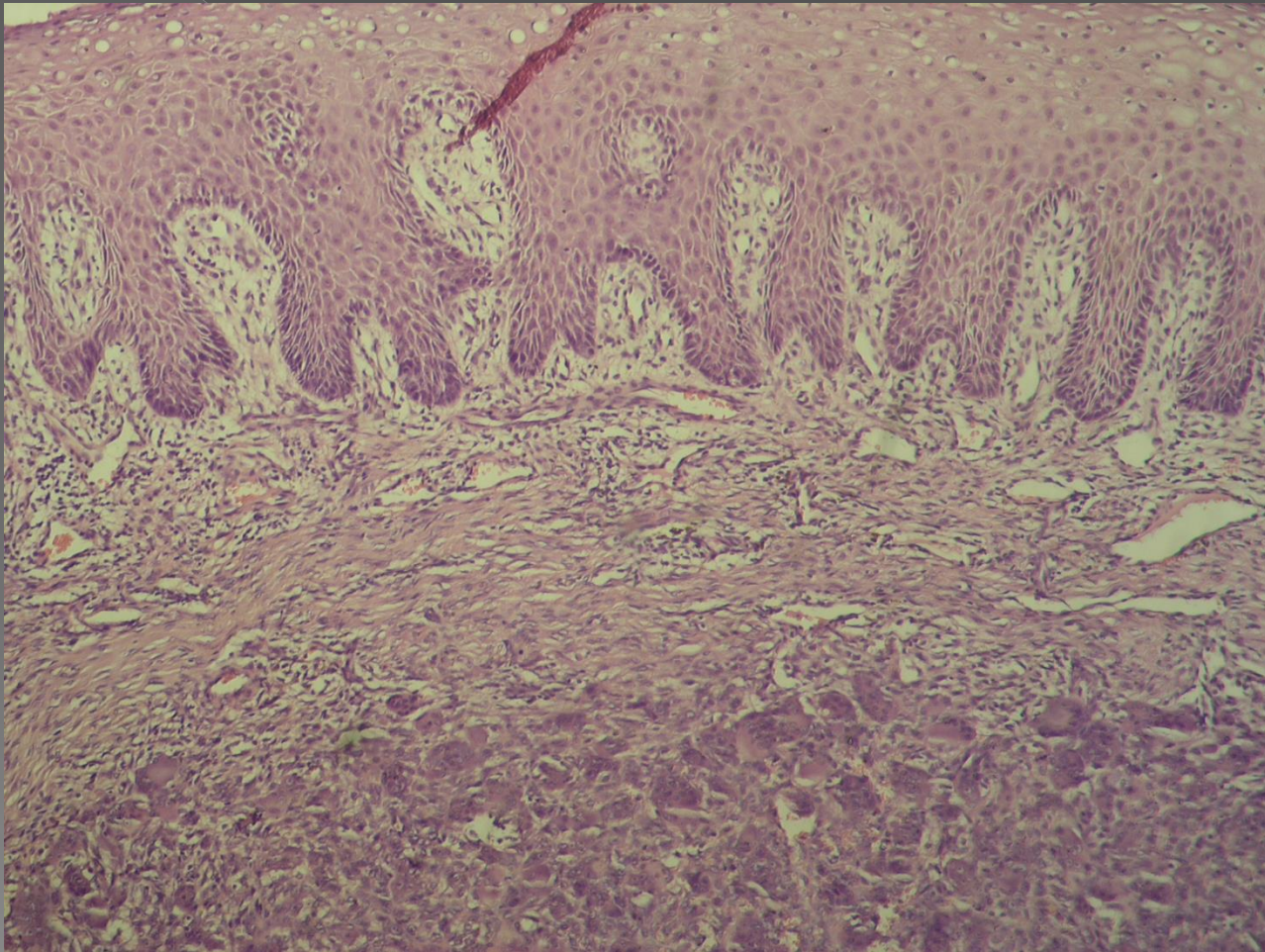
PCGC



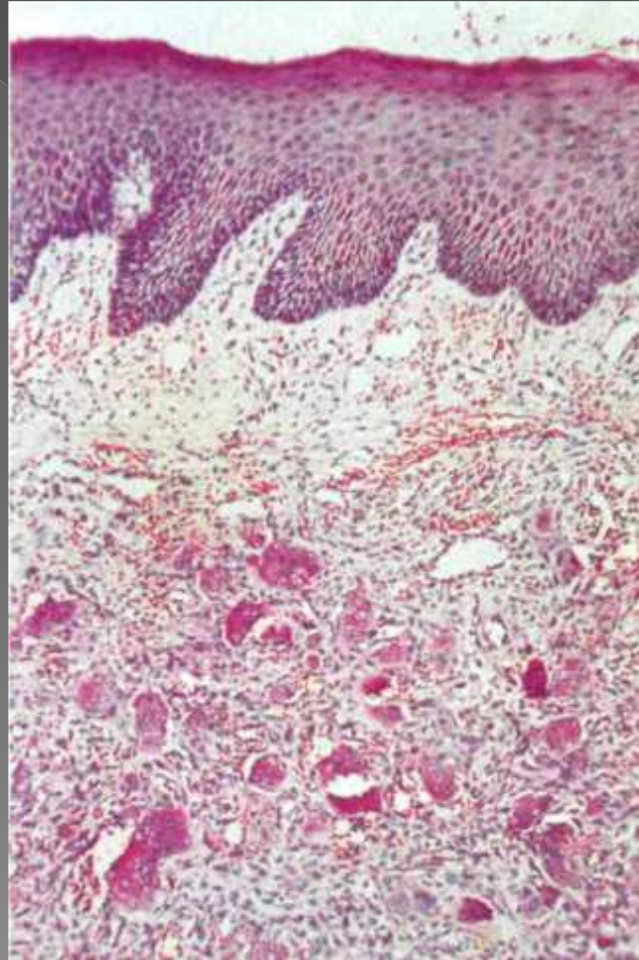


PCGC

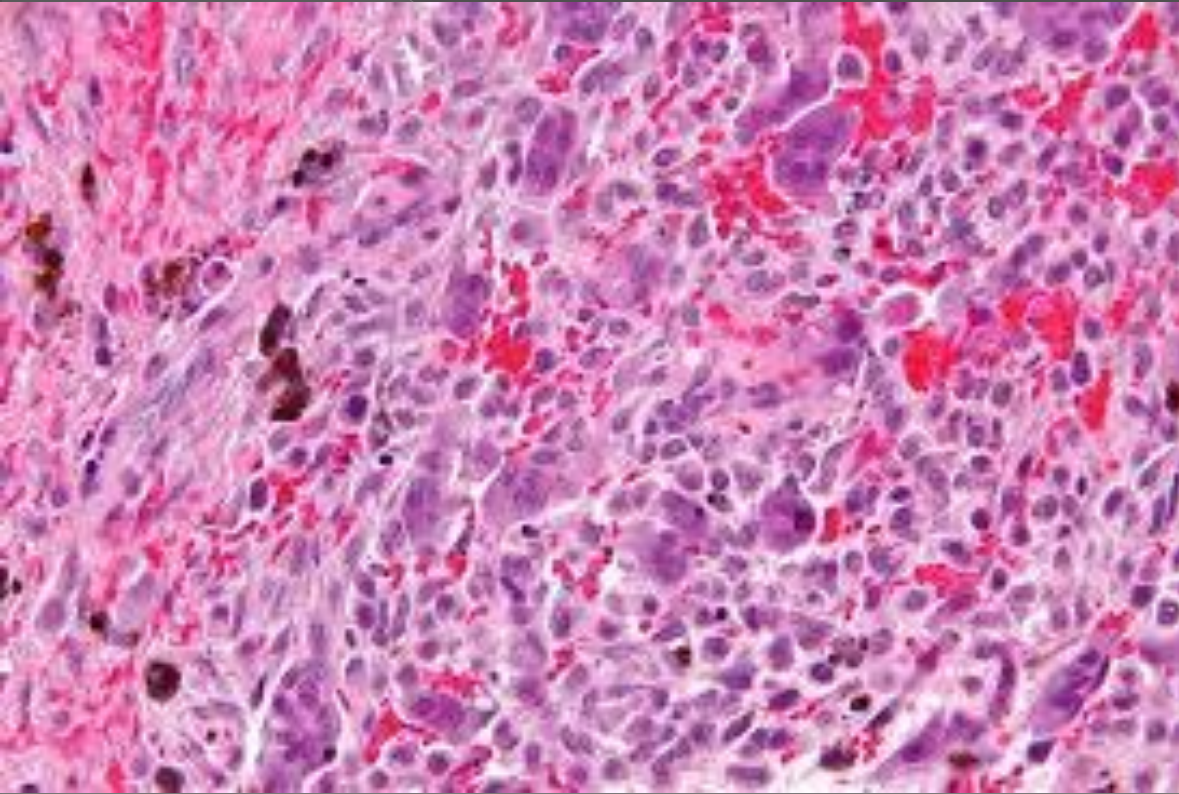
PCGC



PCGC



PCGC



Fibrous lesions

A) Reactive hyperplasia:

III- **Generalized gingival hyperplasia:**

- **Etiology**

- Local factors

- Drugs

- Hereditary

- **Clinically**

- **Histopathology**

Generalized gingival hyperplasia



Fibrous lesions

A) Reactive hyperplasia:

III- **Focal fibrous hyperplasia (Fibroepithelial polyp)**:

- Etiology
- Clinically
- Histopathology

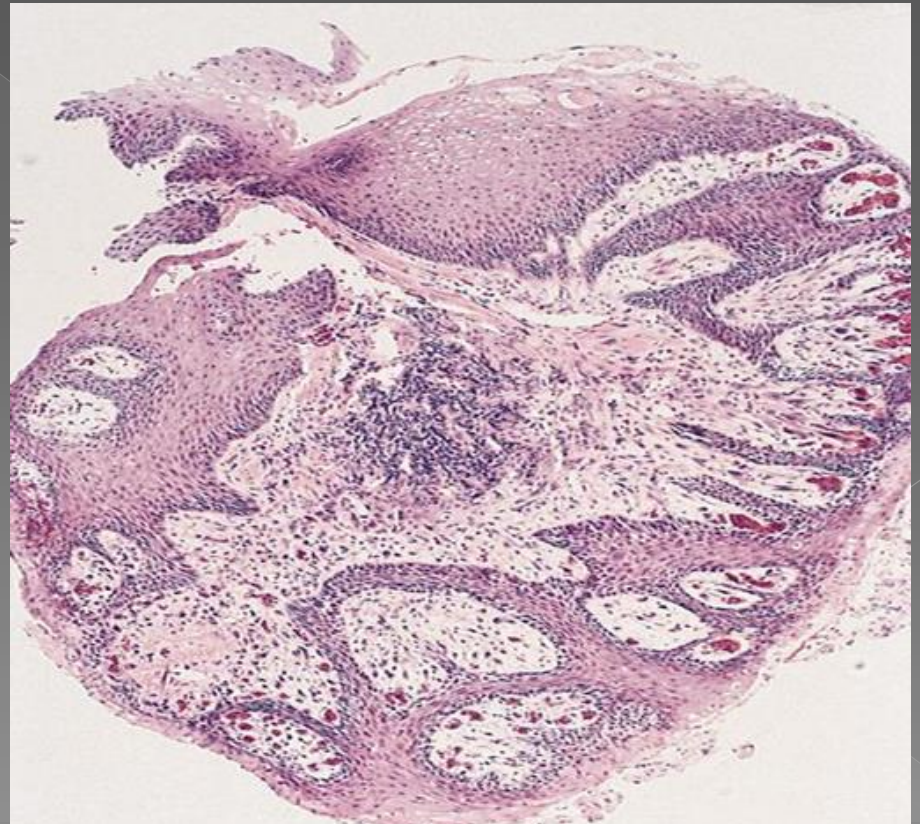


Fibrous lesions

A) Reactive hyperplasia:

III- **Focal fibrous hyperplasia:**

○ **Histopathology**



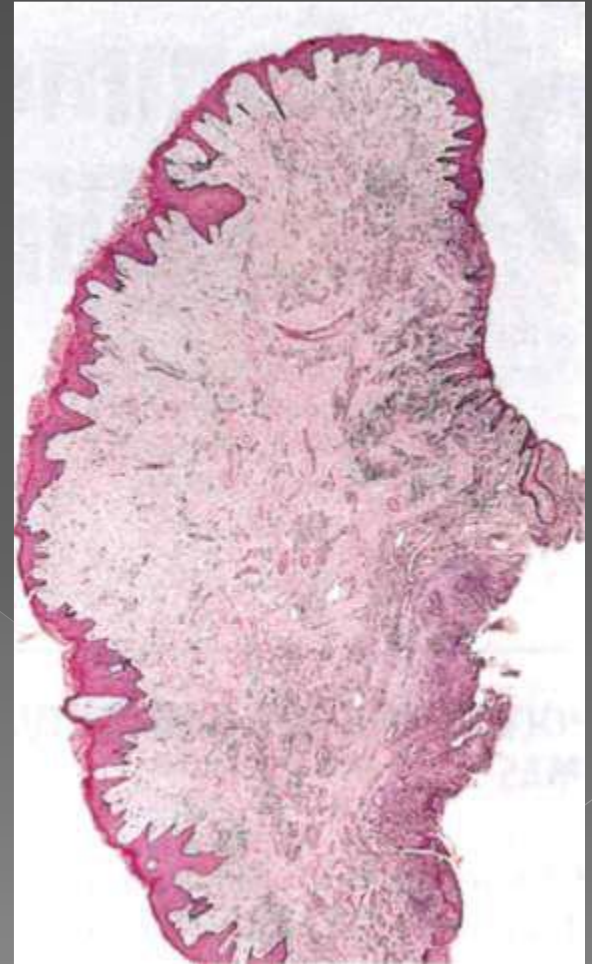
Fibrous lesions

A) Reactive hyperplasia:

III- **Focal fibrous hyperplasia:**

○ **Histopathology**

mature fibrous tissue covered by hyperplastic epithelium with spiky rete processes. A few inflammatory cells are present near the base.



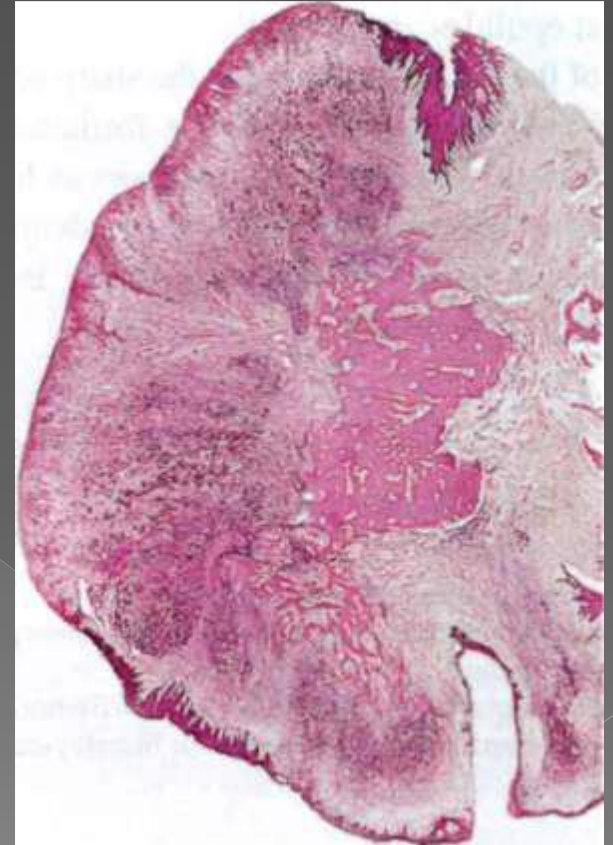
Fibrous lesions

A) Reactive hyperplasia:

III- **Focal fibrous hyperplasia:**

○ Histopathology

Fibrous epulis with ossification. Much of the surface of this pedunculated nodule is ulcerated and hyperplastic epithelium covers the margins. Centrally the lesion is very cellular, partly as a result of inflammatory infiltrate, and trabeculae of woven bone are being deposited and maturing into lamellar bone. The presence of bone in a fibrous epulis appears to be of no clinical significance.



Fibrous lesions

A) Reactive hyperplasia:

IV- **Denture induced fibrous hyperplasia**

(**Epulis fissuratum**):

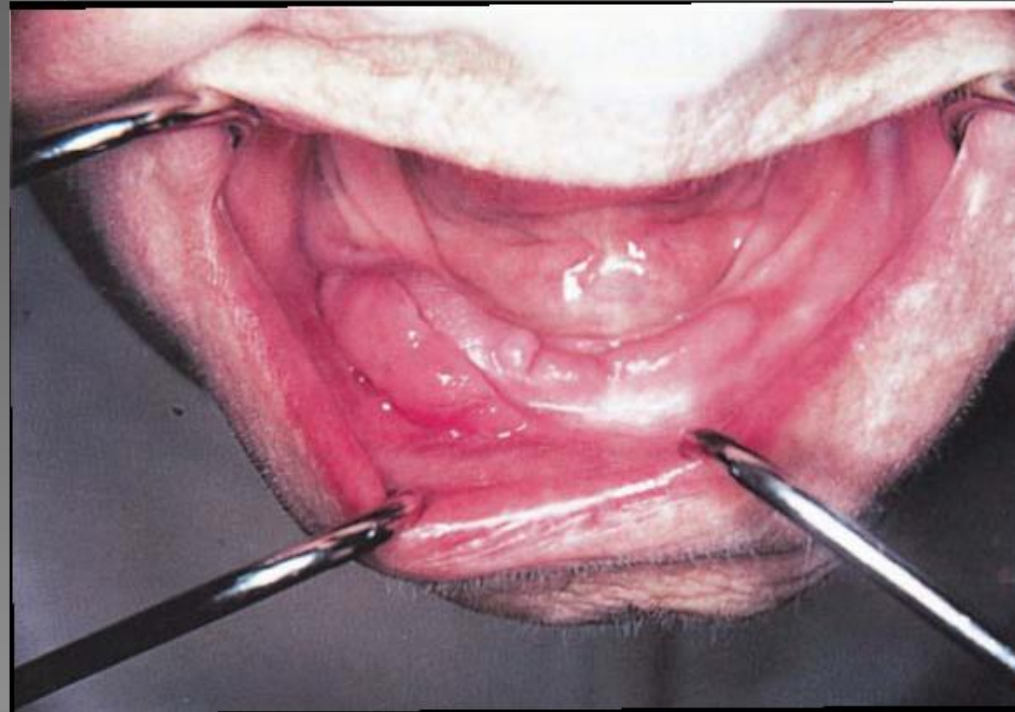
- **Etiology**
- **Clinically**
- **Histopathology**



Fibrous lesions

A) Reactive hyperplasia:

IV- **Denture induced fibrous hyperplasia**
(**Epulis fissuratum**):



Fibrous lesions

A) Reactive hyperplasia:

IV- **Denture induced fibrous hyperplasia**
(**Epulis fissuratum**):



Fibrous lesions

B) Neoplasms:

I- **Fibroma:**

True neoplasm of fibroblast

Sessile or pedunculated

Normal colour

May be ulcerated

Variant: Peripheral ossifying fibroma



Fibrous lesions

B) Neoplasms:

I- Fibroma:



Fibrous lesions

B) Neoplasms:

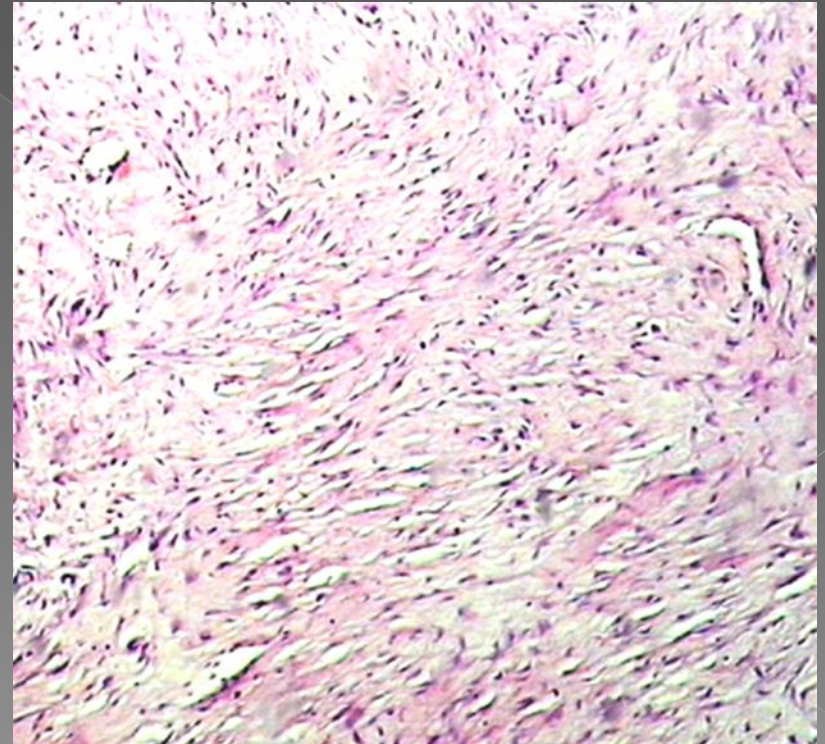
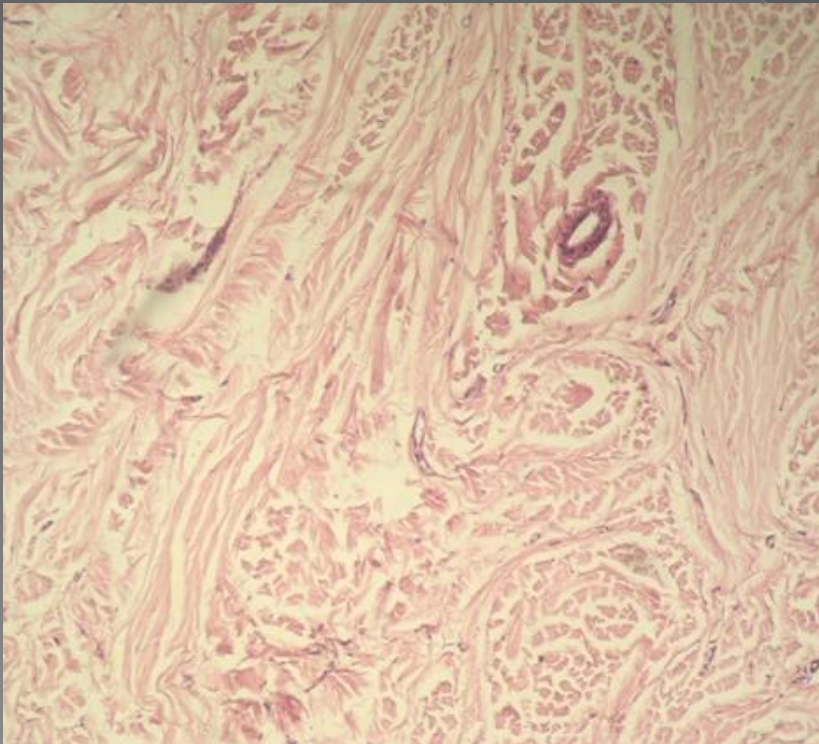
I- Fibroma:



Fibrous lesions

B) Neoplasms:

I- Fibroma:



Fibrous lesions

B) Neoplasms:

II- Giant cell fibroma:

➤ **Clinically**

Asymptomatic, sessile or pedunculated <1cm with papillary surface (irregular surface DD papilloma)
Mandibular gingiva, tongue and palate.

D.D.: retrocuspid papilla

➤ **Histopathology**

Fibrous connective tissue

Large stellate fibroblast with several nuclei

Fibrous lesions

B) Neoplasms:

II- Giant cell fibroma:



Fibrous lesions

B) Neoplasms:

II- **Myxoma**

➤ **Clinically**

Soft tissue neoplasm commonly seen in the palate as slow growing asymptomatic submucosal mass

Syndrome: Oral myxomas, cardiac myxomas, mucocutaneous pigmentation, endocrine abnormalities

➤ **Histopathology**

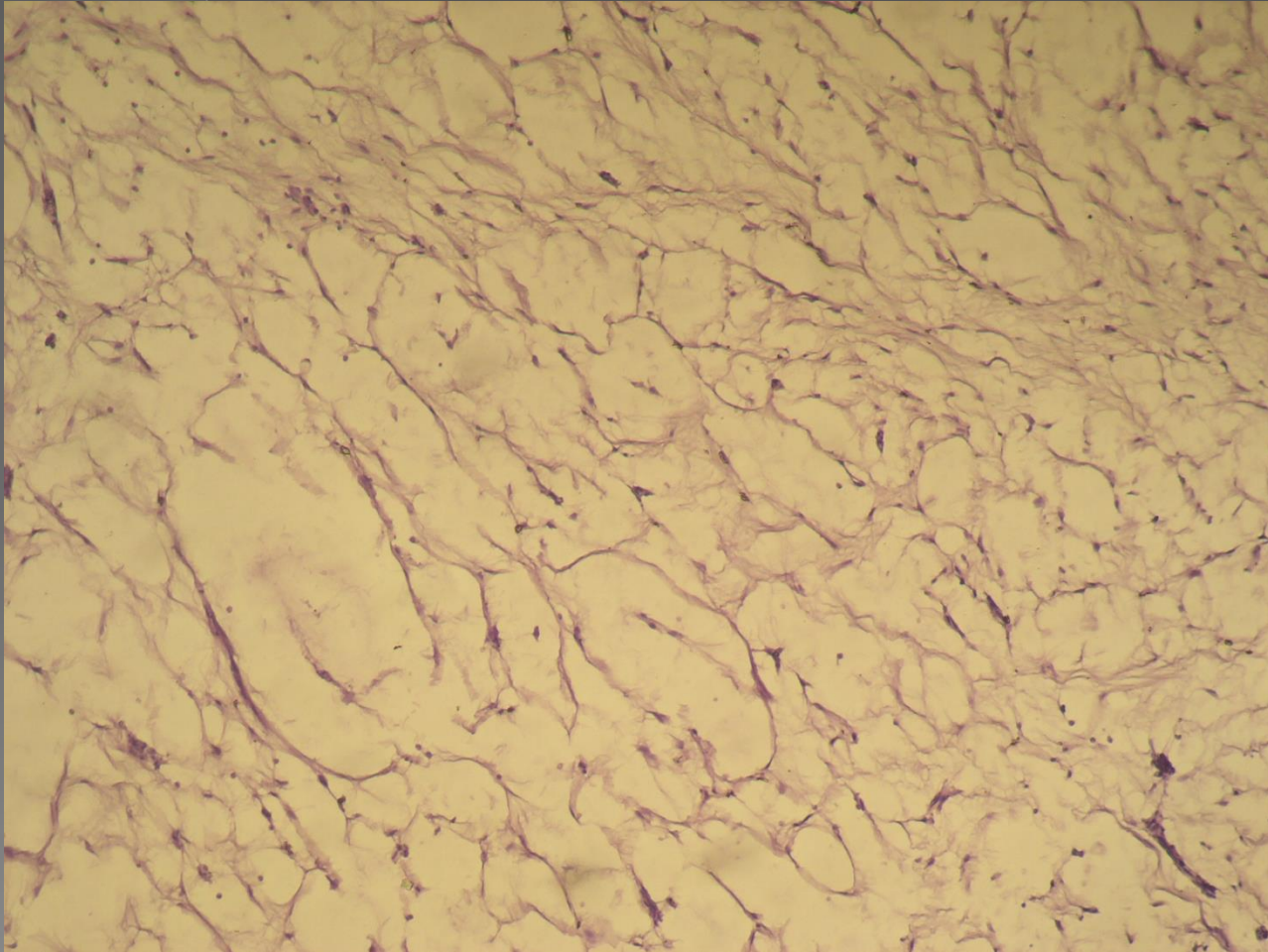
Non-capsulated (infiltration of surrounding tissue)

Stellate fibroblast in loose myxoid stroma

Fibrous lesions



Fibrous lesions



Fibrous lesions

B) Neoplasms:

III- **Fibrosarcoma**

Malignant spindle cell tumor

➤ **Clinically**

Rare

Peripheral or central

If central < it arises from periosteum, endosteum or periodontal ligament

Locally destructive > metastasis

➤ **Histopathology**

Malignant fibroblast in herringbone or interlacing fascicular pattern with frequent mitotic figures

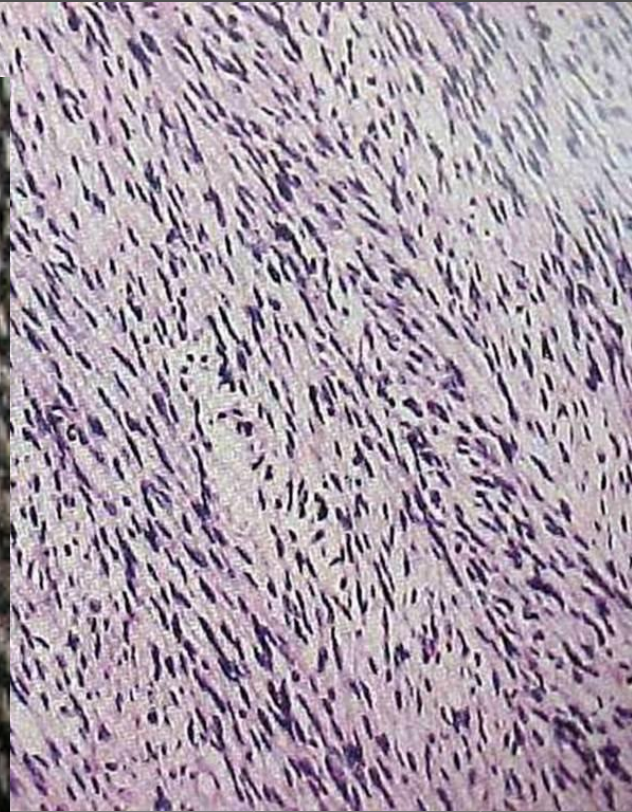
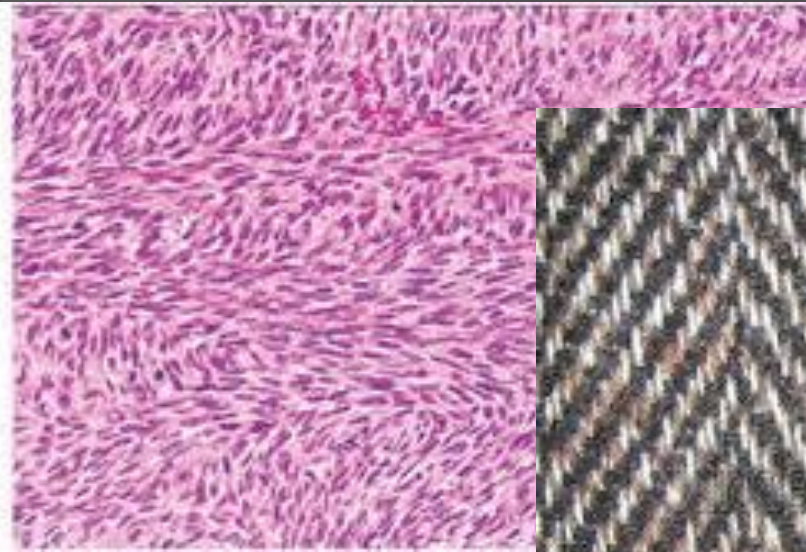
Sparse collagen fibers

Ill-defined border

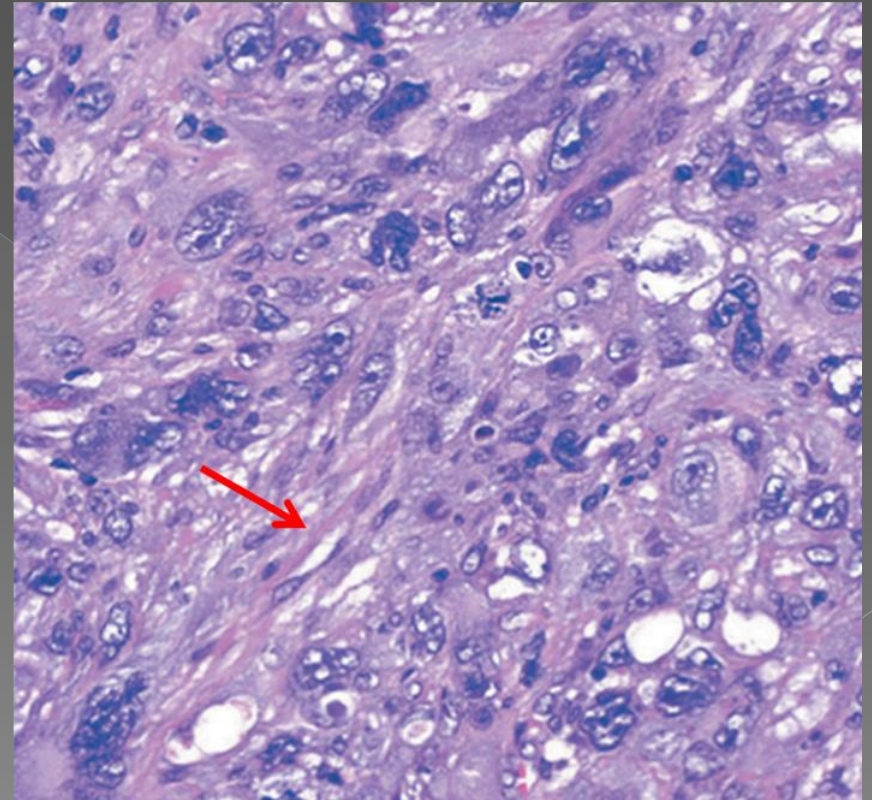
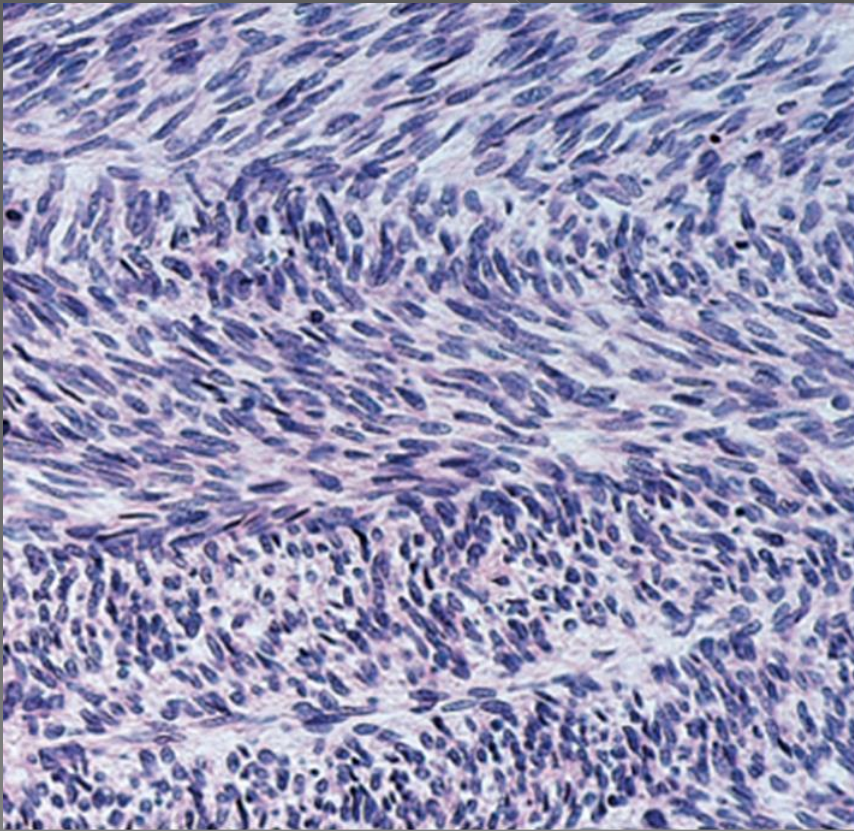
Fibrosarcoma



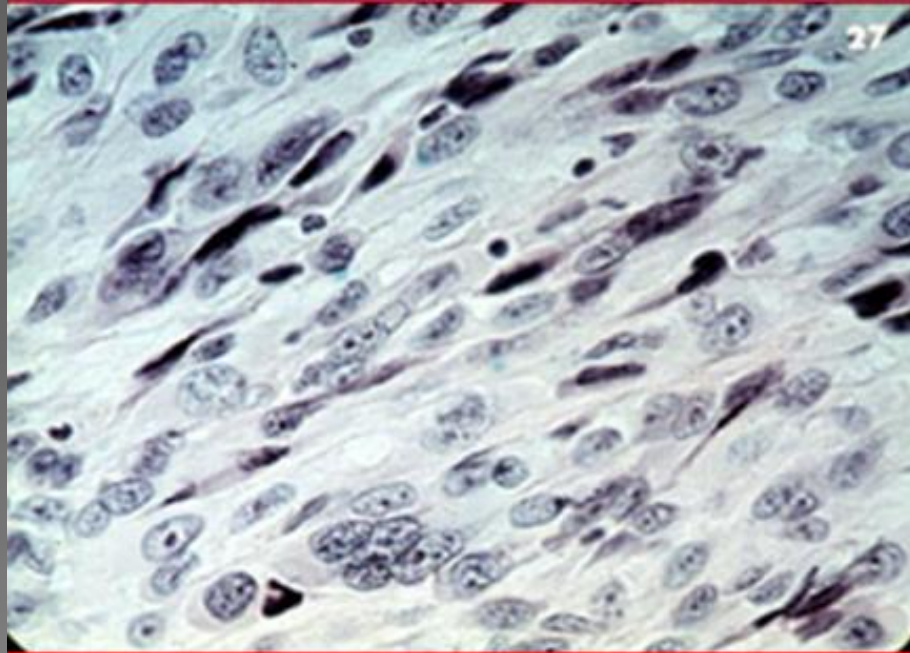
Fibrosarcoma



Fibrosarcoma

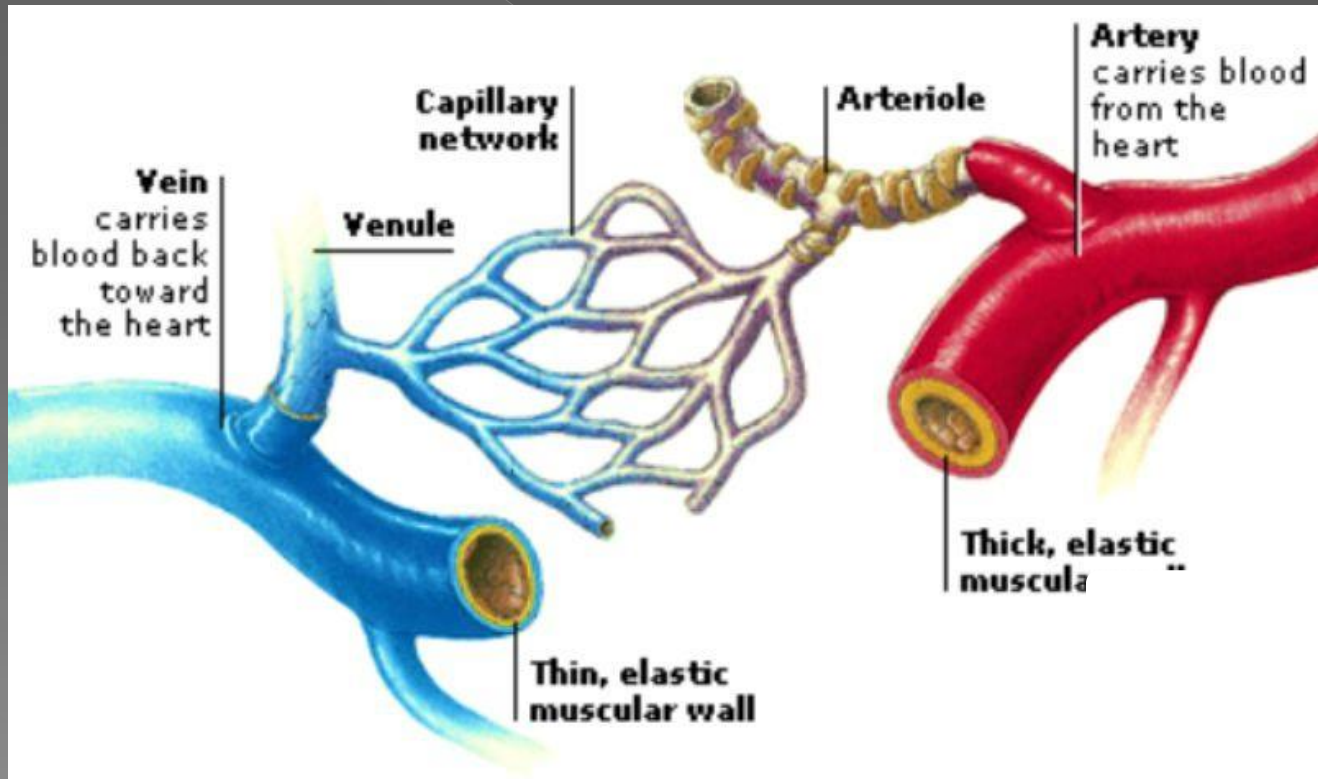


Fibrosarcoma



Vascular lesions

B) Congenital hemangioma and congenital vascular malformations:



Vascular lesions

B) Congenital hemangioma and congenital vascular malformations:

- They represent vascular proliferations
- Both appear at birth
- Congenital hemangioma (strawberry nevus) is a benign congenital neoplasm of proliferating endothelial cells with congenital vascular malformations
- Congenital hemangioma is subdivided into capillary and cavernous
- If intrabony - - - - ➔ Multilocular radiolucency

Vascular lesions

	Hemangioma	Vascular malformations
Nature	Abnormal endothelial cell proliferation	Abnormal blood vessel development
Components	↑ no of capillaries	Mix of arteries, veins, capillaries and AV shunt
Growth	Rapid congenital growth	Grows with patient
involution	Spontaneous involution	No involution
Boundaries	Circumscribed	Poorly circumscribed
resection	Resection of persistent lesions	Surgical hemorrhage
Recurrence	Uncommon	Common
Pulsation	Absent	Present

Vascular lesions

◉ Congenital hemangioma and congenital vascular malformations

❖ Clinically:

Color: red- blue depending on degree of congestion and depth

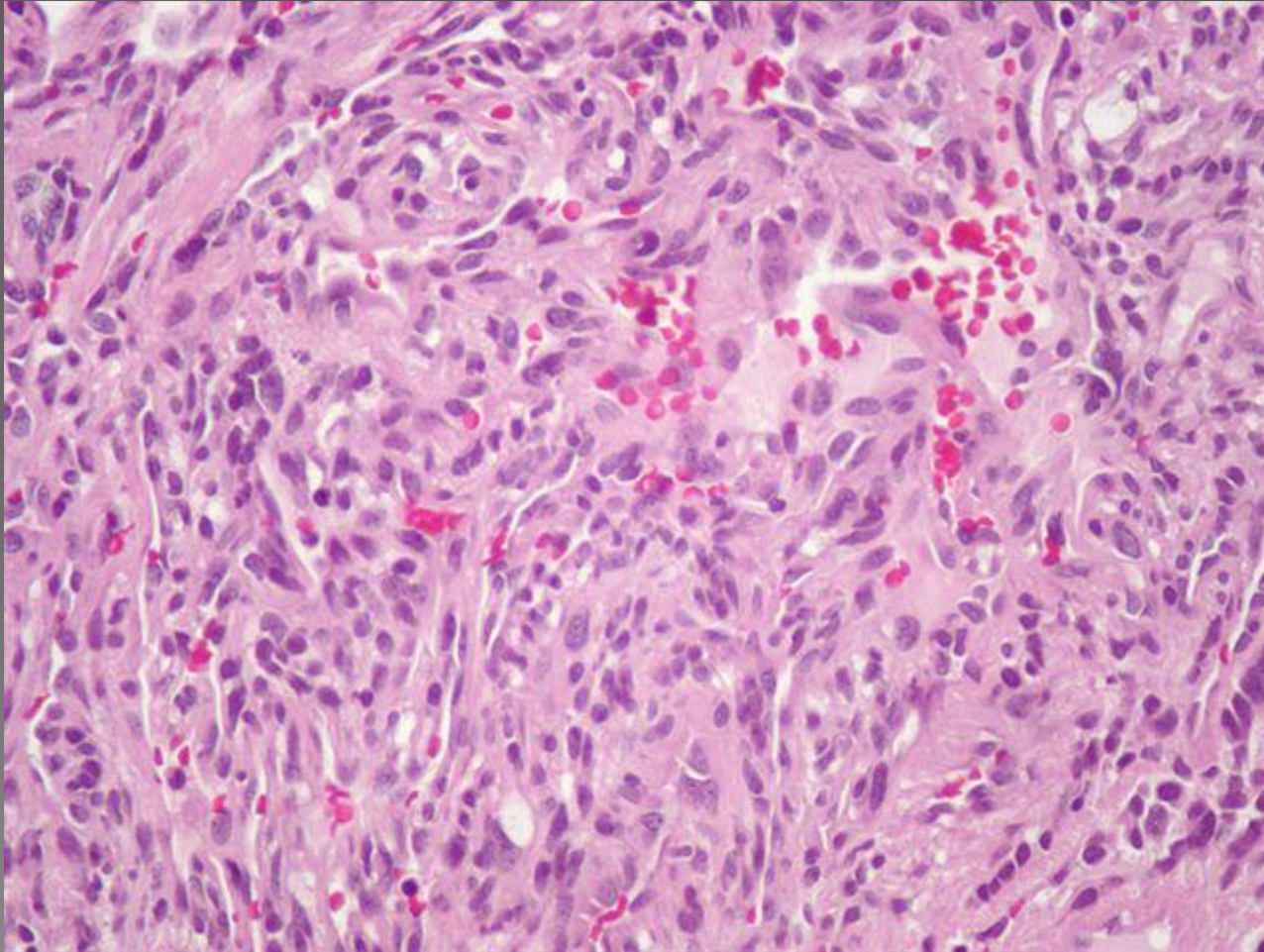
Diascopy: Blanching

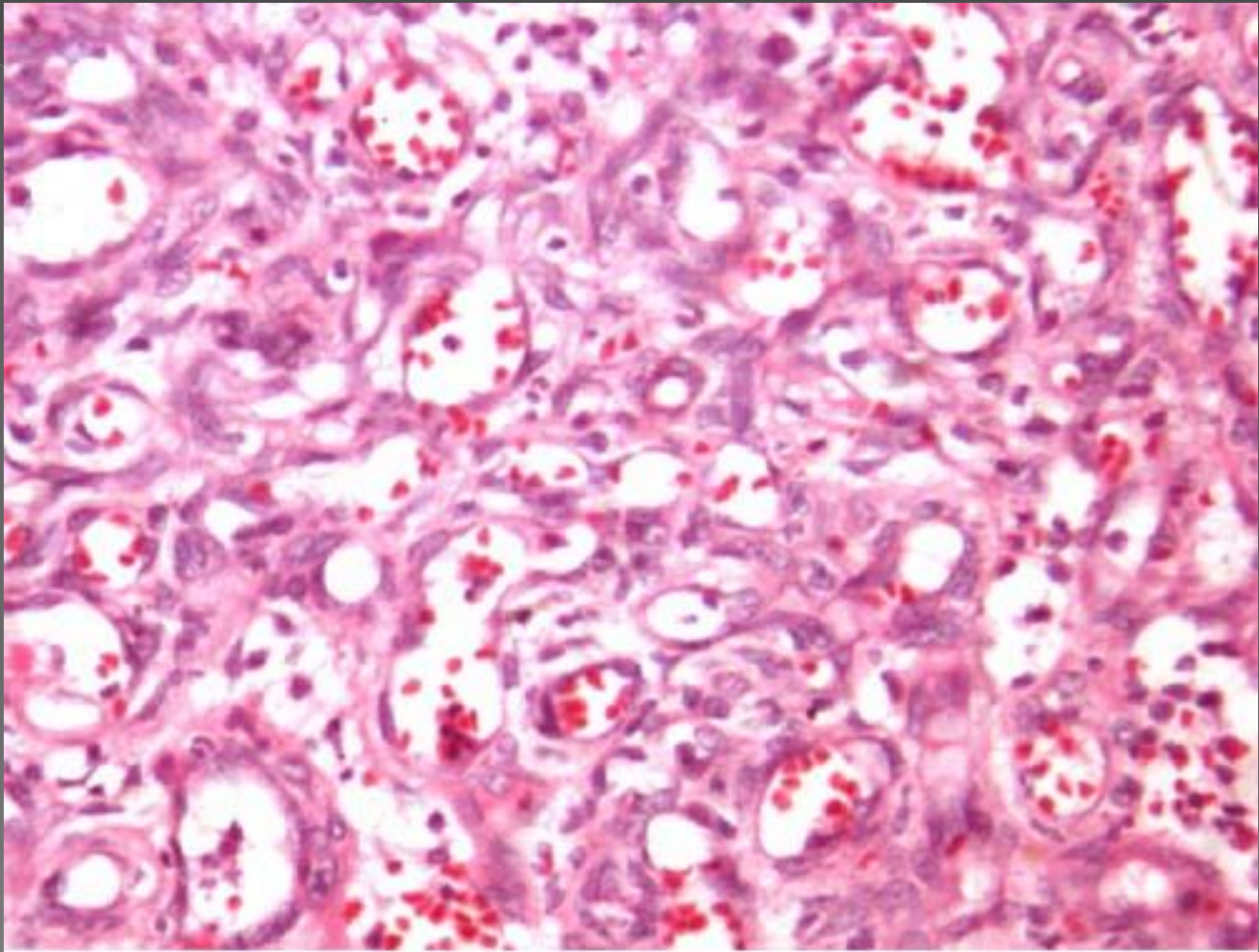
Shape: Flat, nodular or bosselated

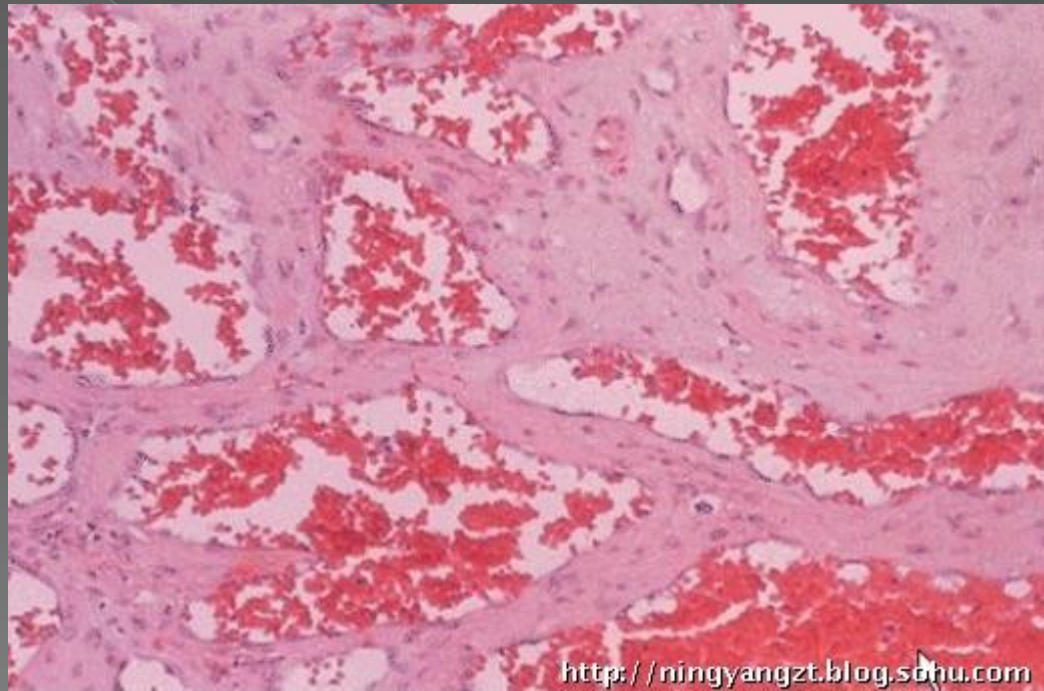
Site: Lip, tongue and buccal mucosa

❖ Histopathology



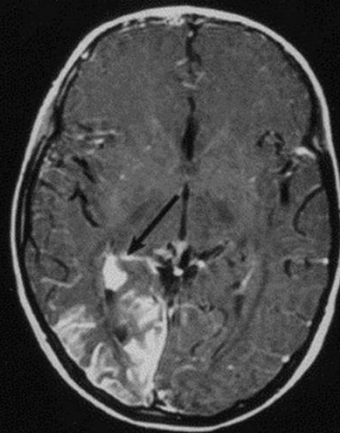






<http://ningyangzt.blog.sohu.com>

Sturge Weber syndrome



Sturge Weber syndrome



Vascular lesions

◉ Lymphangioma

Color: lighter than surrounding tissue to red-blue

Palpation: crepant sound

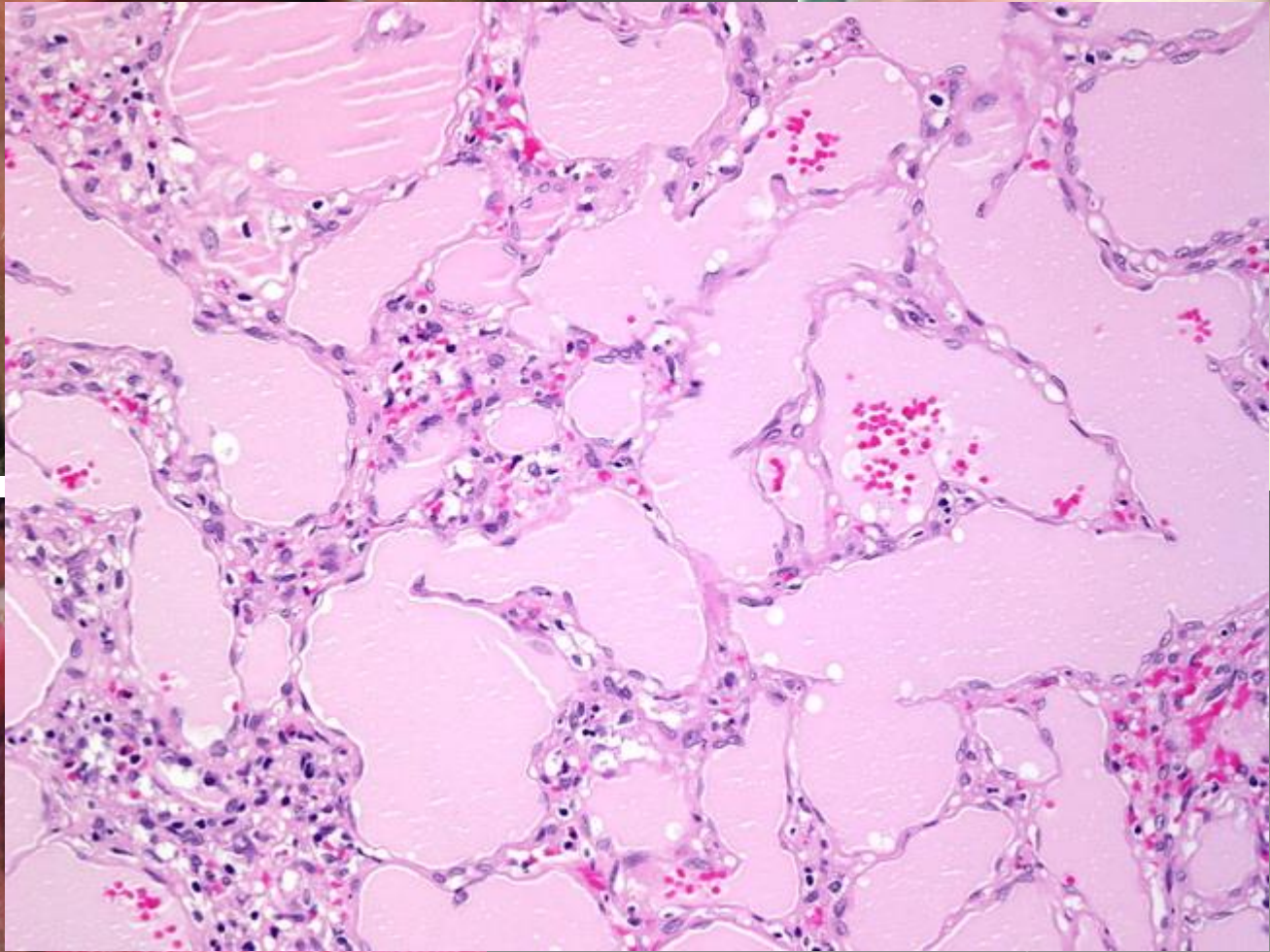
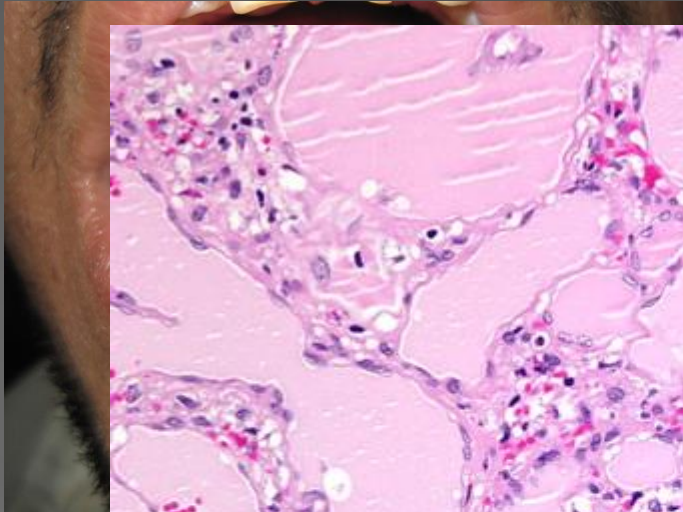
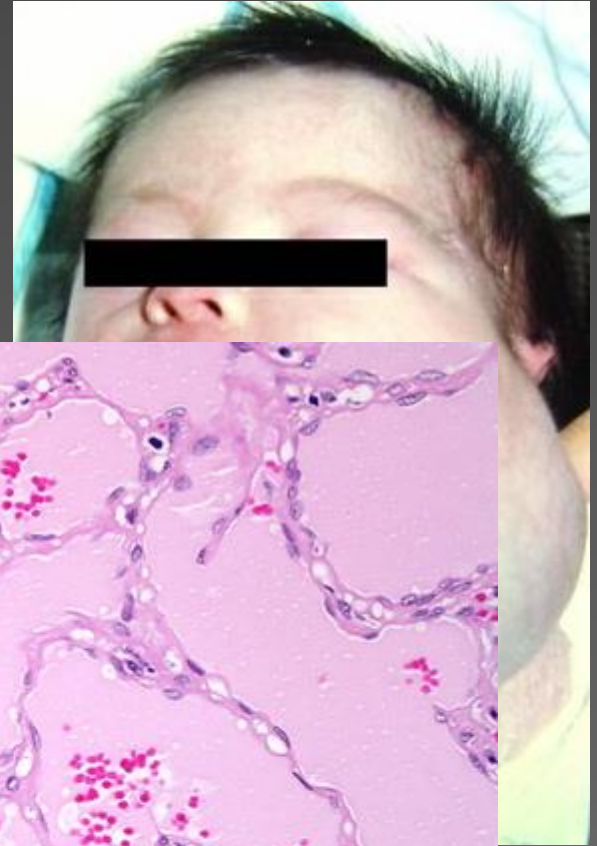
Shape: painless nodular vesicle like swelling

Site: Tongue then lip

In the neck -----> **Cystic hygroma**

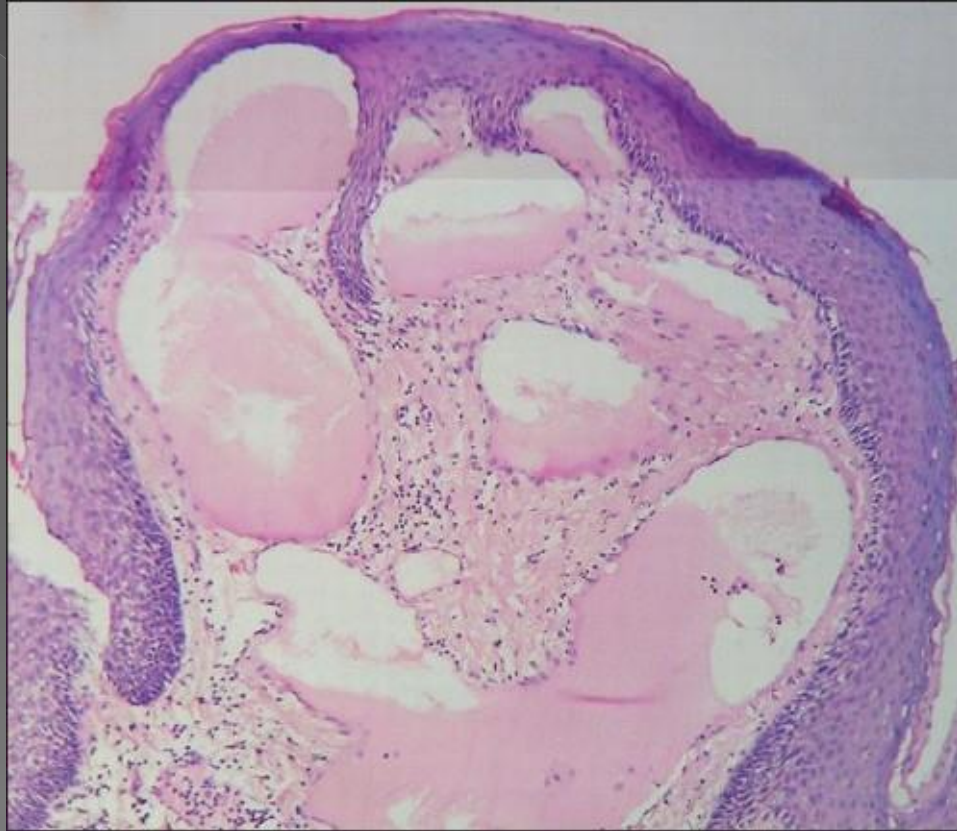
❖ Histopathology

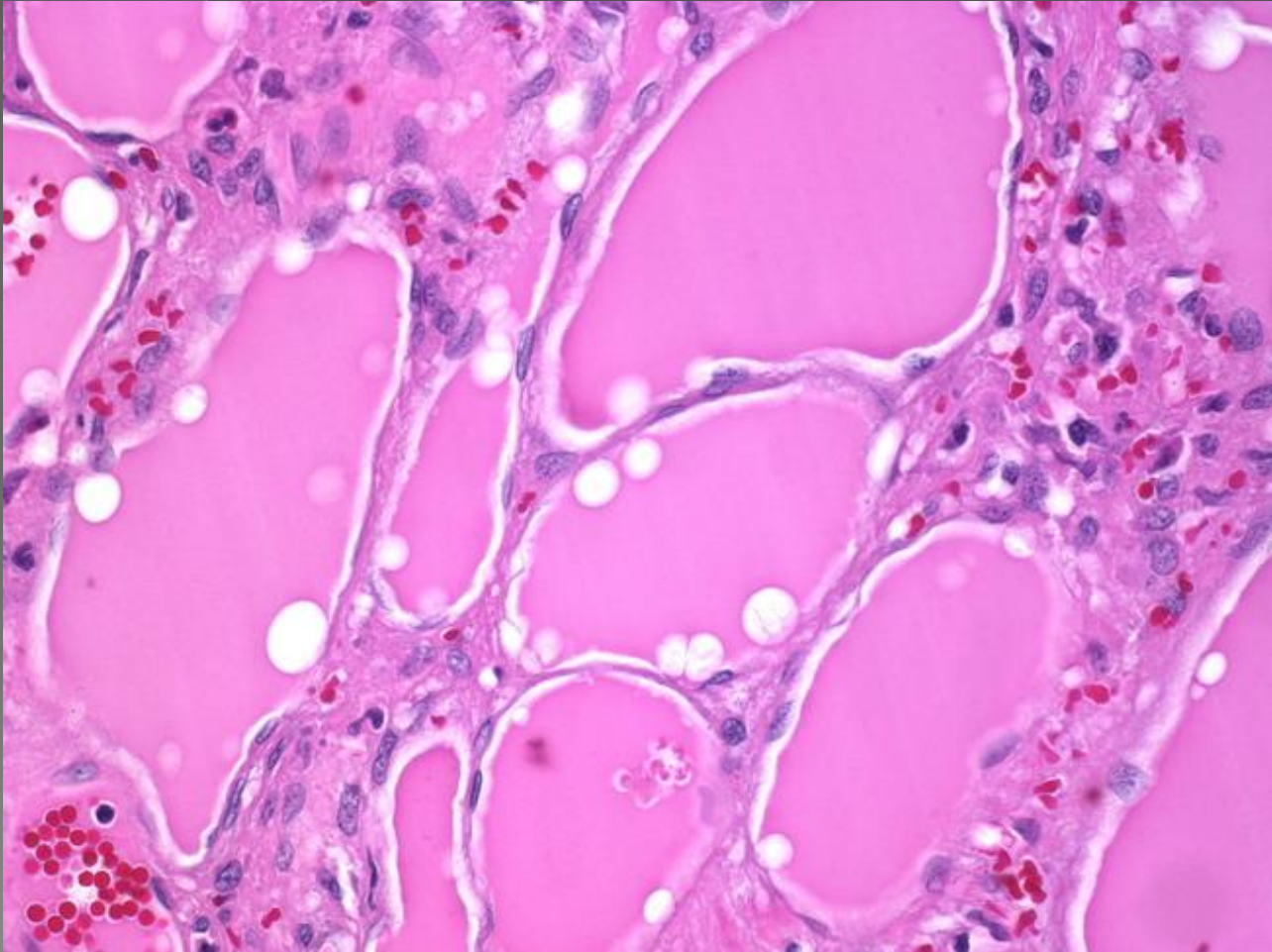
❖ TTT











Tumors of bone

- Osteoma
- Osteosarcoma
- Chondroma
- Chondrosarcoma
- Ewing's sarcoma
- Metastatic tumors of the jaws

Tumors of bone

● Osteoma

➤ Def

- May be cancellous or compact
- Craniofacial skeleton is the most common site
- Don't include torus palatinus or mandibularis although identical

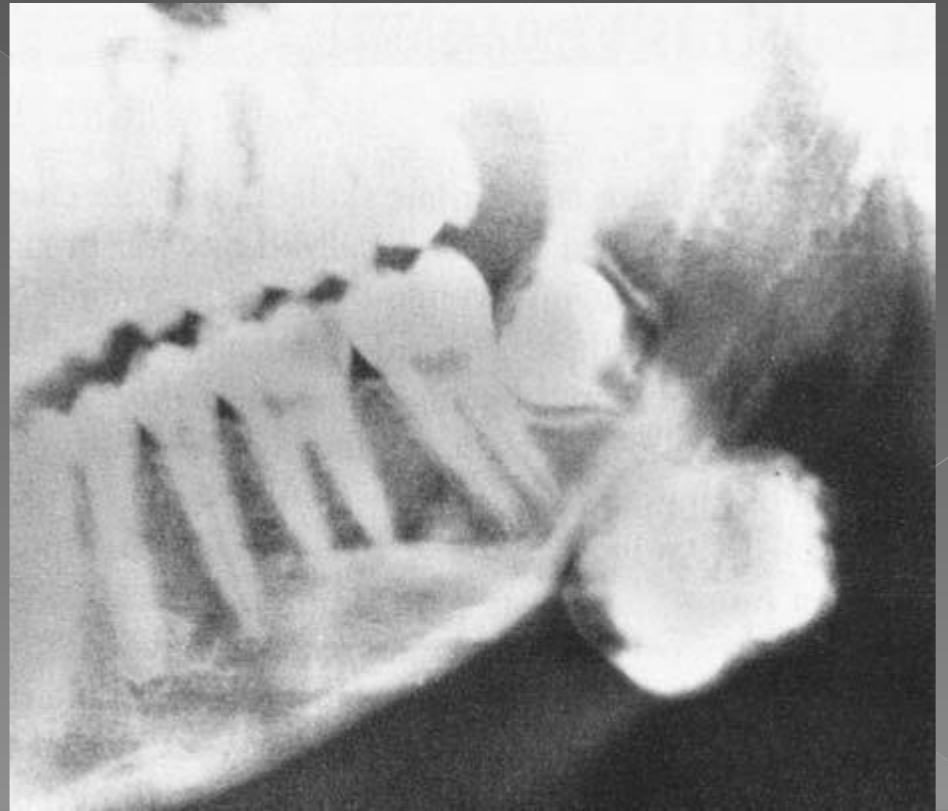
➤ Types

➤ Signs and symptoms

Multiple osteoma in gardener's syndrome

Tumors of bone

● Osteoma



Tumors of bone

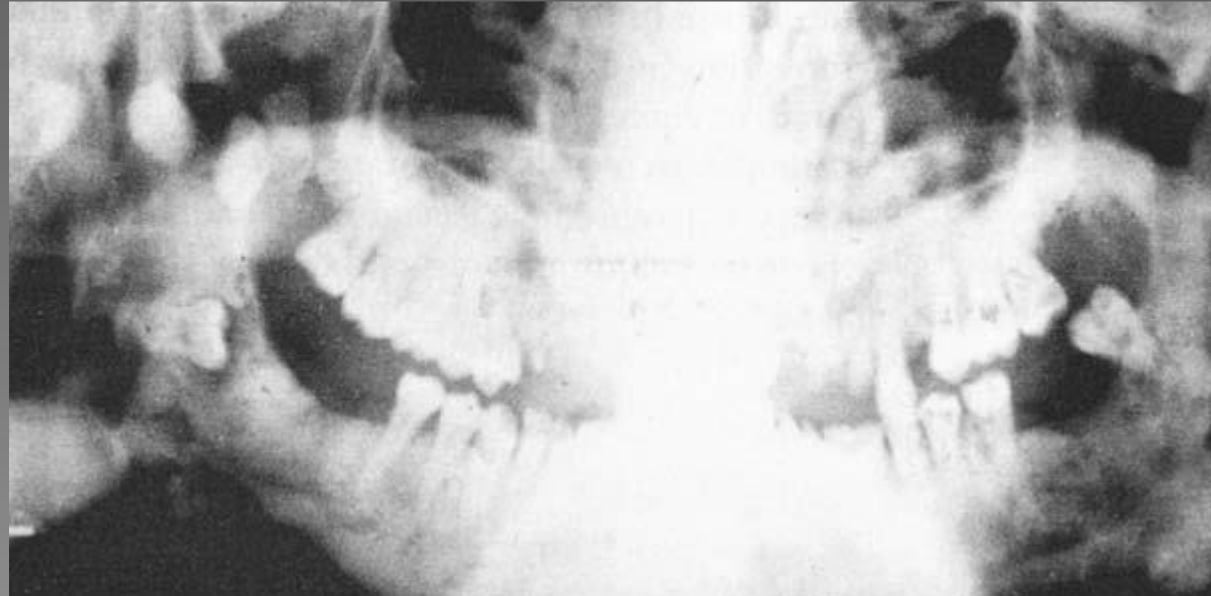
● Osteoma



Tumors of bone

● Osteoma

Gardener syndrome



Tumors of bone

● Osteoma

- X-ray : Radiopaque mass
D.D.

Extoses, Osteoblastoma, osteoid osteoma, odontoma and focal sclerosing osteomyelitis

- Histopathology
 - Cacellous or compact

Tumors of bone

● Osteoma



Tumors of bone

● Osteoma:

Soft tissue osteoma (osteoma mucans)



Tumors of bone

● Extoses

● localised overgrowths of bone found most frequently buccally on the alveolar bone and are often symmetrically arranged.



Tumors of bone

● Extoses

● localised overgrowths of bone found most frequently buccally on the alveolar bone and are often symmetrically arranged.



Tumors of bone

◎ Osteosarcoma

➤ Def

- Most common malignancy of bone
- Peripheral (juxtacortical) or intramedullary

➤ Clinically:

- Young age **except in**.....
- Swelling, pain, loose teeth, nasal obstruction

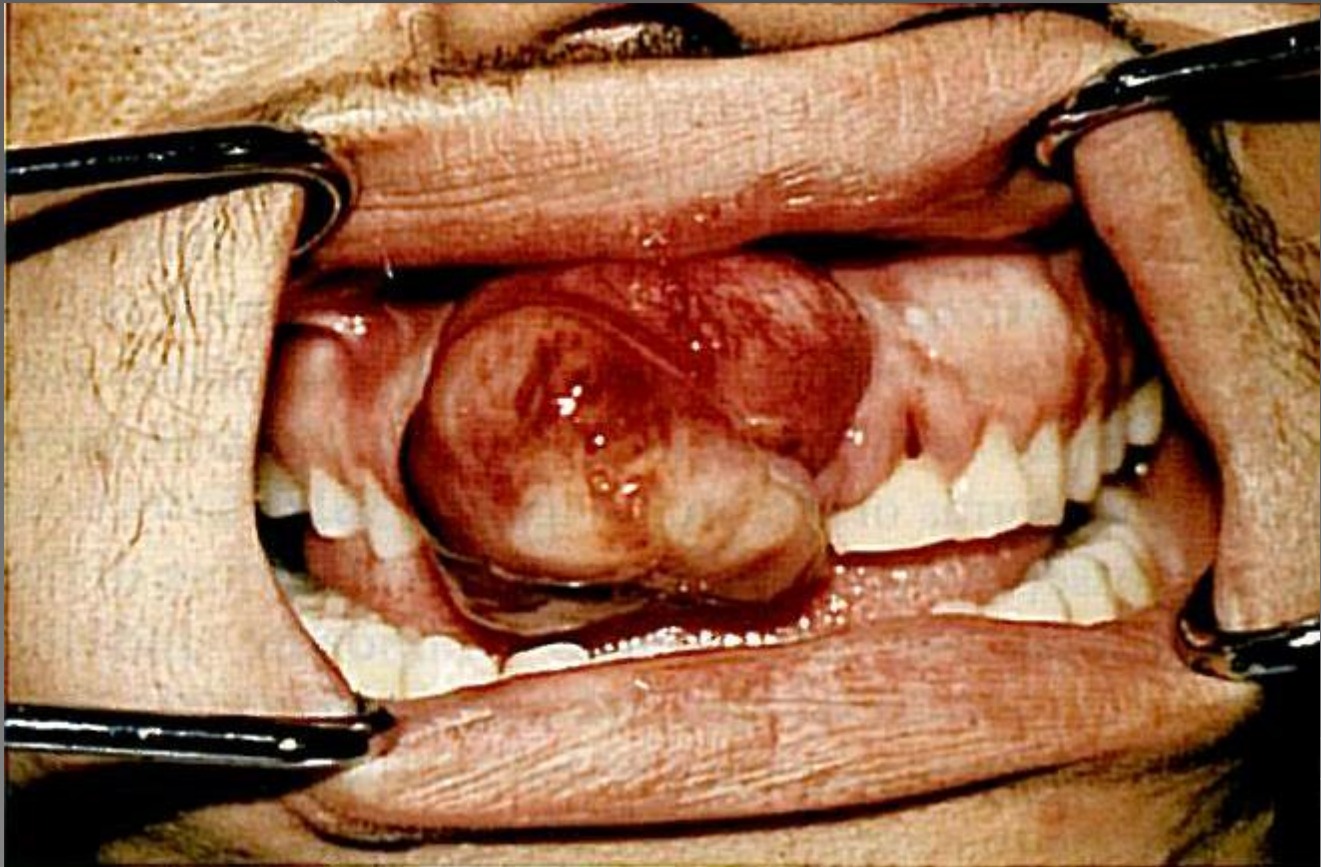
Tumors of bone

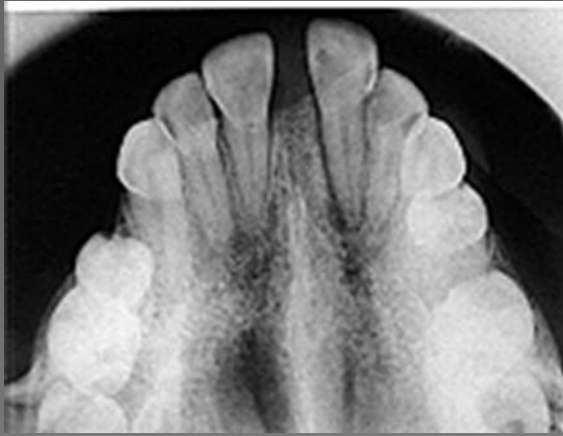
● Osteosarcoma

➤ X-ray

- Widening of periodontal membrane(Garrington sign)
- Radiopaque(sclerotic), Mixed (mottled) or radiolucent
- Sun burst appearance due to osteophytic bone production
- D.D.: Osteoblastoma, fibrous dysplasia and ossifying fibroma









Same pt



Tumors of bone

● Osteosarcoma

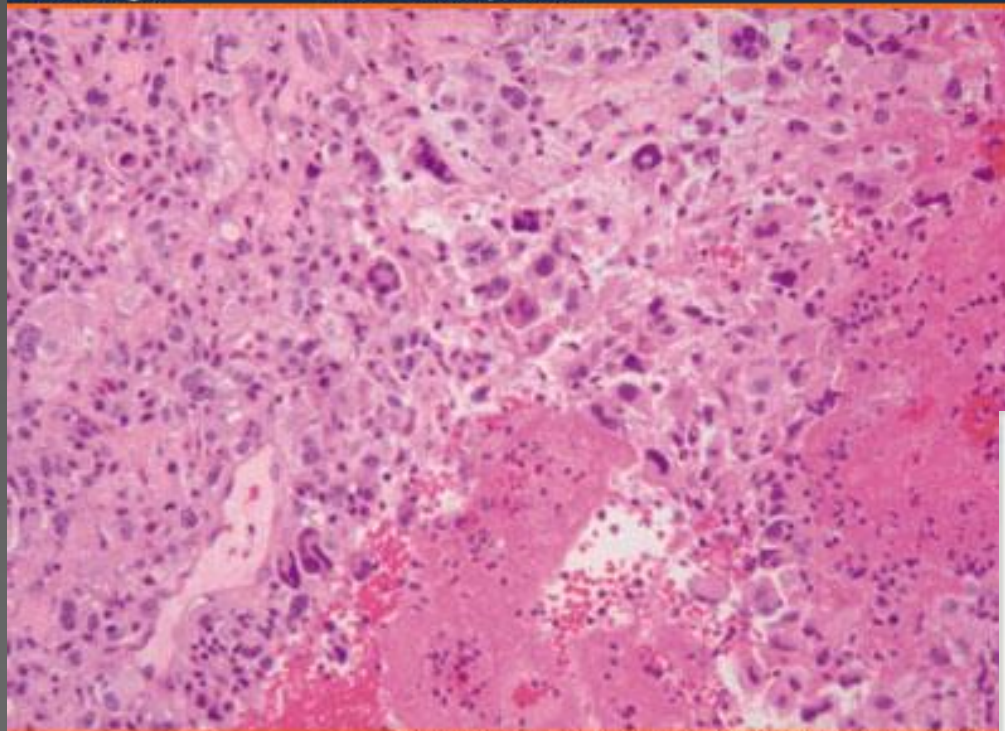


Tumors of bone

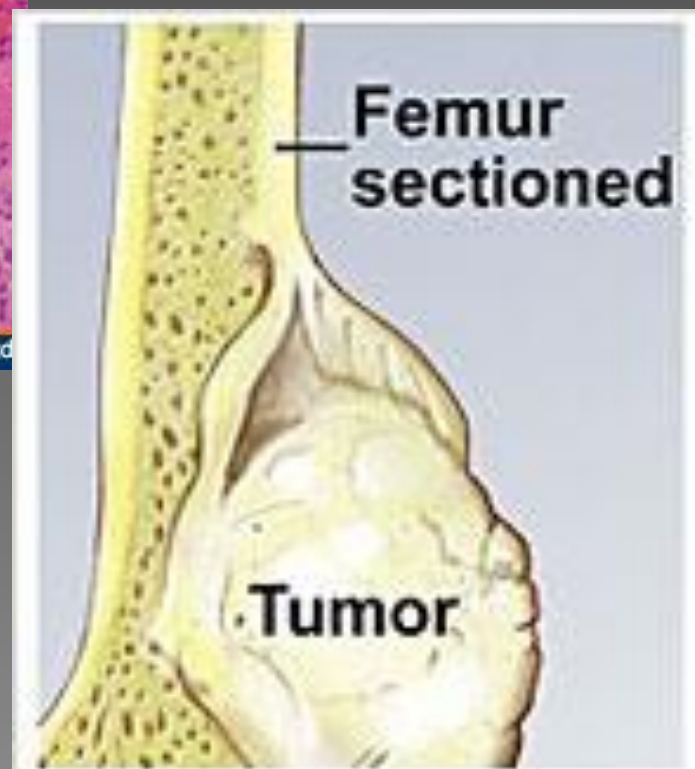
● Osteosarcoma

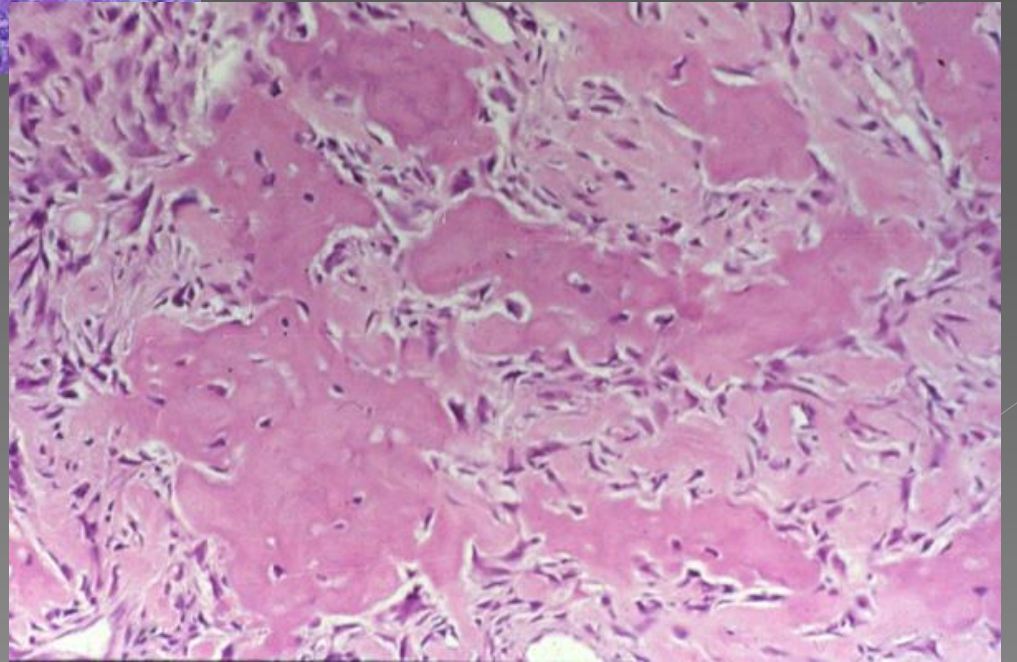
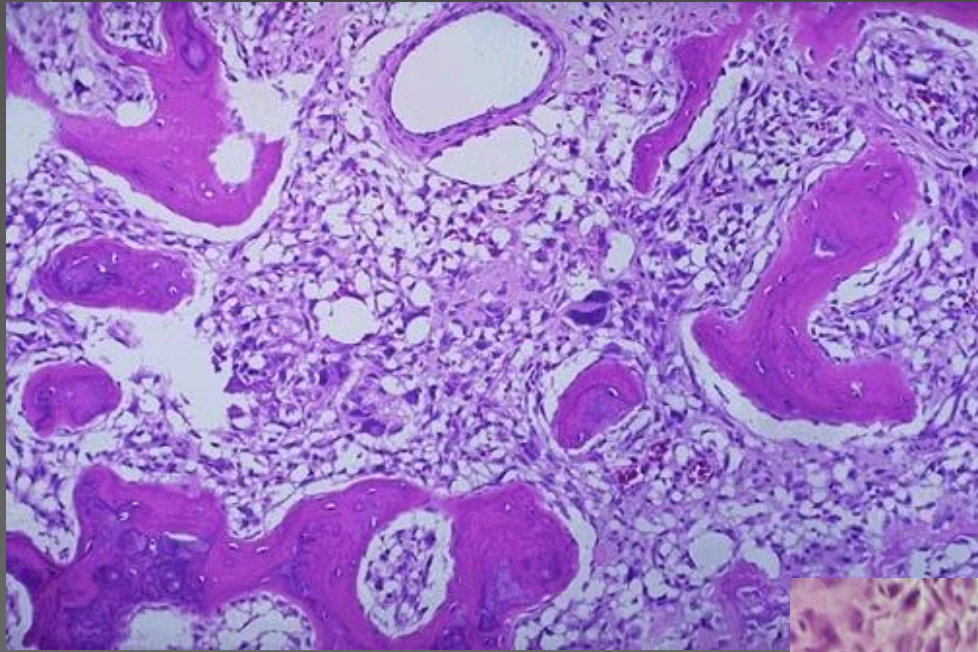
➤ Histopathology

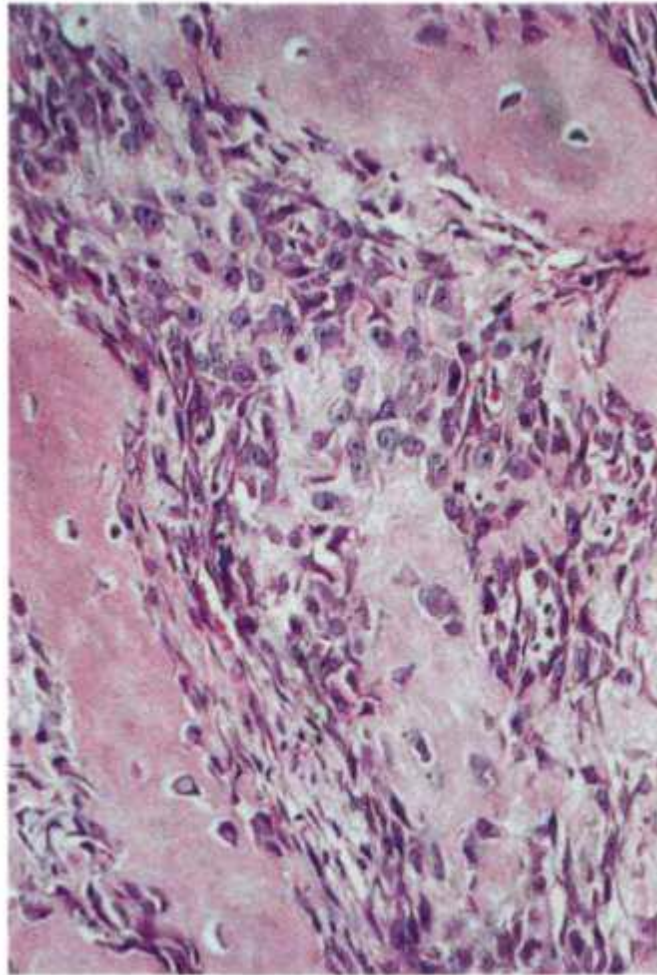
- Essentially: Osteoid tissue by malignant cells
- Types:
 1. Chondroblastic (prevails in jaw)
 2. Fibroblastic
 3. Osteoblastic (Most common)
 4. Telangiectatic (widely dilated vascular channels and giant cells)
- Normalization



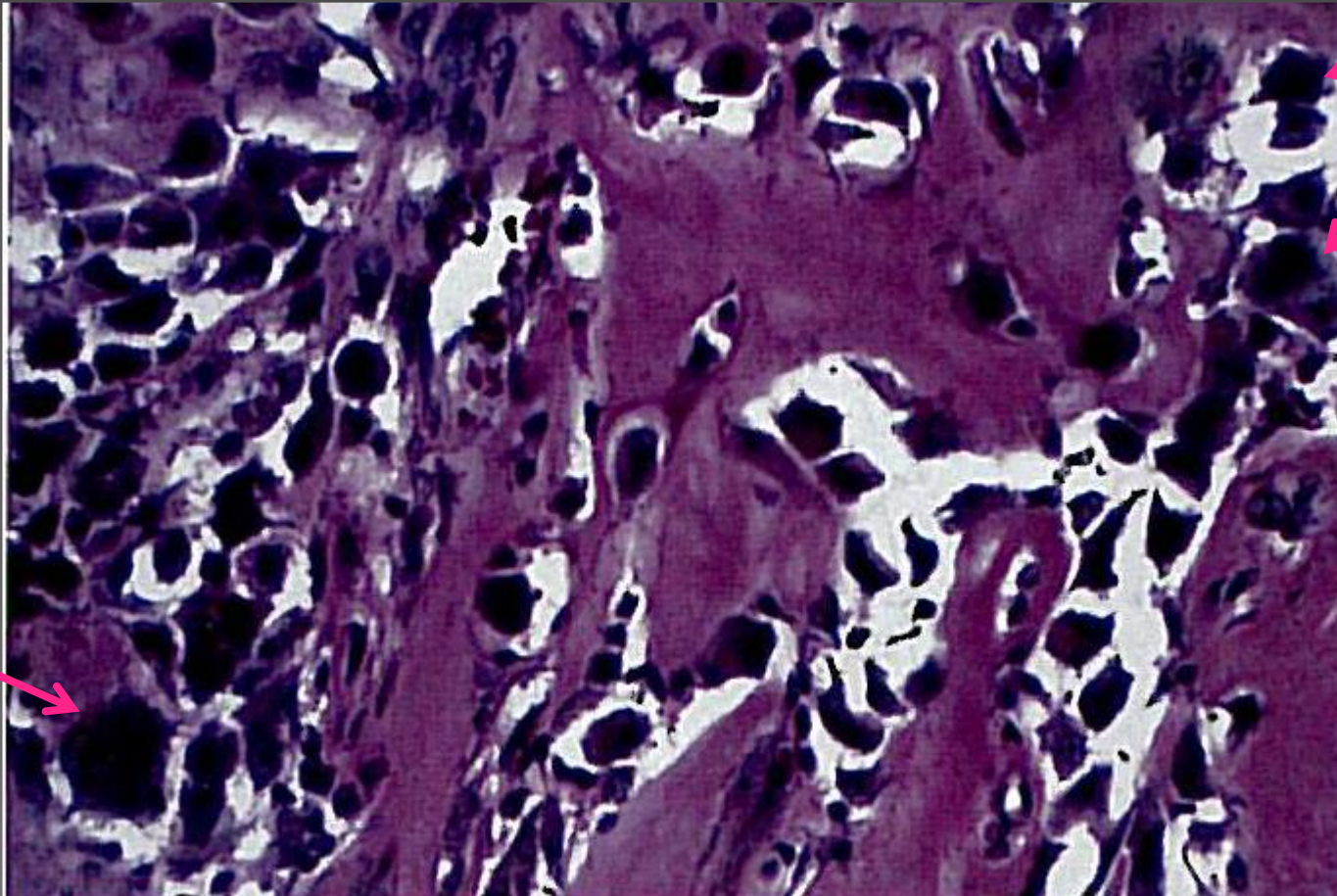
Source: Appl Radiol © 2003 Anderson Publishing, Ltd







Trabeculae of abnormal woven bone surrounded by atypical cells in which mitoses are frequent and pleomorphism is conspicuous.



1

2

- 1- Pleomorphic osteoblasts
- 2- Giant cell

Tumors of bone

◎ Chondroma

➤ Def

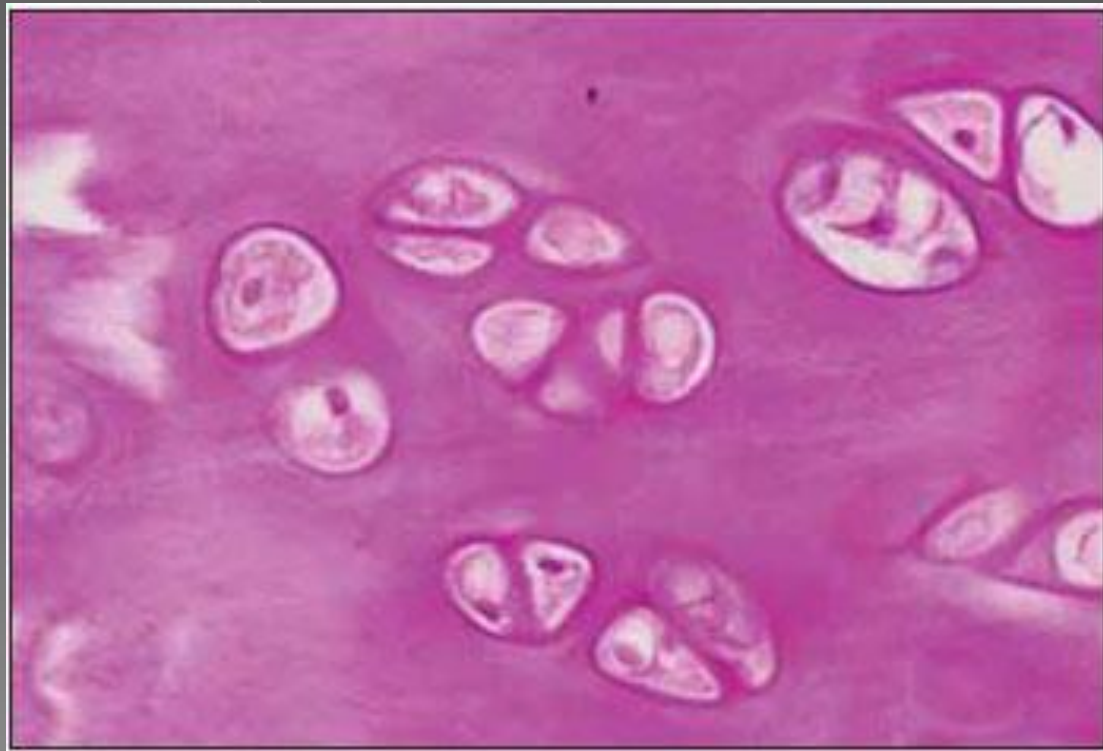
- Common in short bone and very rare in jaws

➤ Clinically

- Painless, slowly growing
- At sites of cartilagenous remenants as:
 1. Nasal syptum
 2. Ethmoid sinuses
 3. Anterior maxilla
 4. Body and symphysis of the mandible
 5. Coronoid process
 6. Condyle

Tumors of bone

● Chondroma



Tumors of bone

● Chondroma

➤ X-ray

- Irregular RL with foci of calcifications

➤ Histopathology

- Lobules of mature hyaline cartilage
- Difficult to be distinguished from well-differentiated chondrosarcoma

Tumors of bone

◎ Chondrosarcoma

➤ Def

- Very rare in jaws
- 2nd most sarcoma of the jaw

➤ Clinically

- Old age
- Ant. Maxilla (caligenous remenants of nasal septum) and post. Mandible (Meckel's cartilage)
- Slowly growing, painfull
- Displacement and loosness of teeth

Tumors of bone

● Chondrosarcoma



Tumors of bone

◎ Chondrosarcoma

➤ X-ray

- Irregular RL with foci of calcifications
- Widening of periodontal membrane (Garrington sign)
- Sun burst appearance

➤ Histopathology

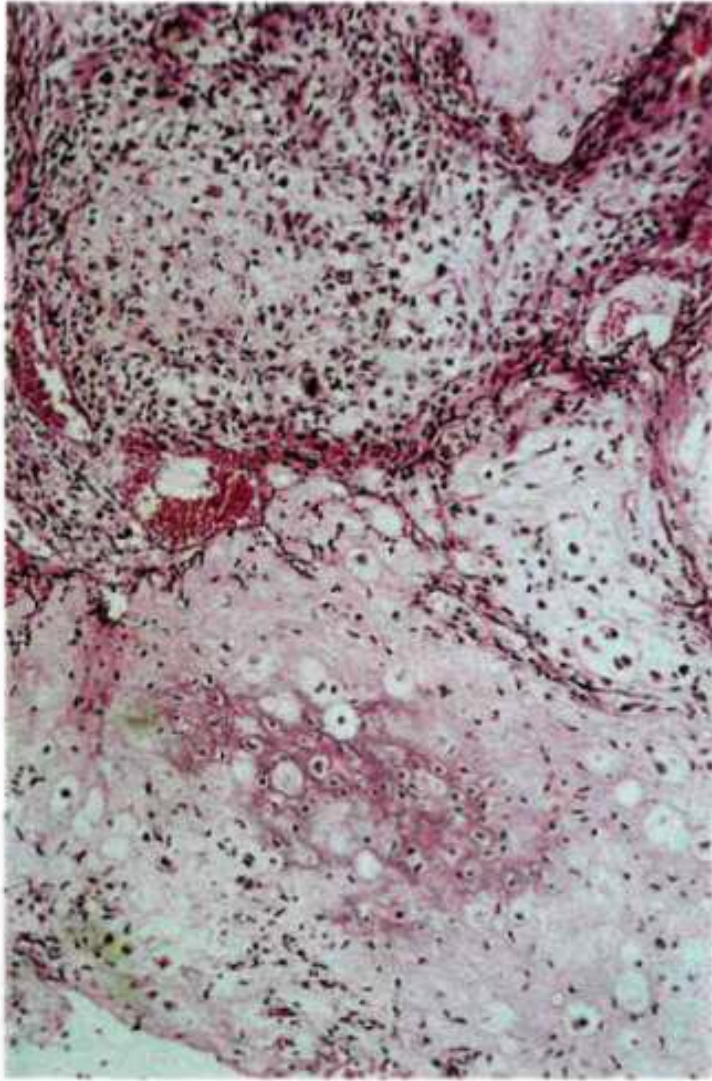
- Malignant cartilage with no bone formation
- Large, plump nuclei often bi or multinucleated
- Pleomorphism and hyperchromatism
- Difficult to be distinguished from well-differentiated chondrosarcoma
- Grade I, II and III

Tumors of bone

● Chondrosarcoma







Ewing' sarcoma

- ◉ Def
- ◉ Origin
- ◉ Clinically
 - Age
 - Sites
 - Signs and symptoms

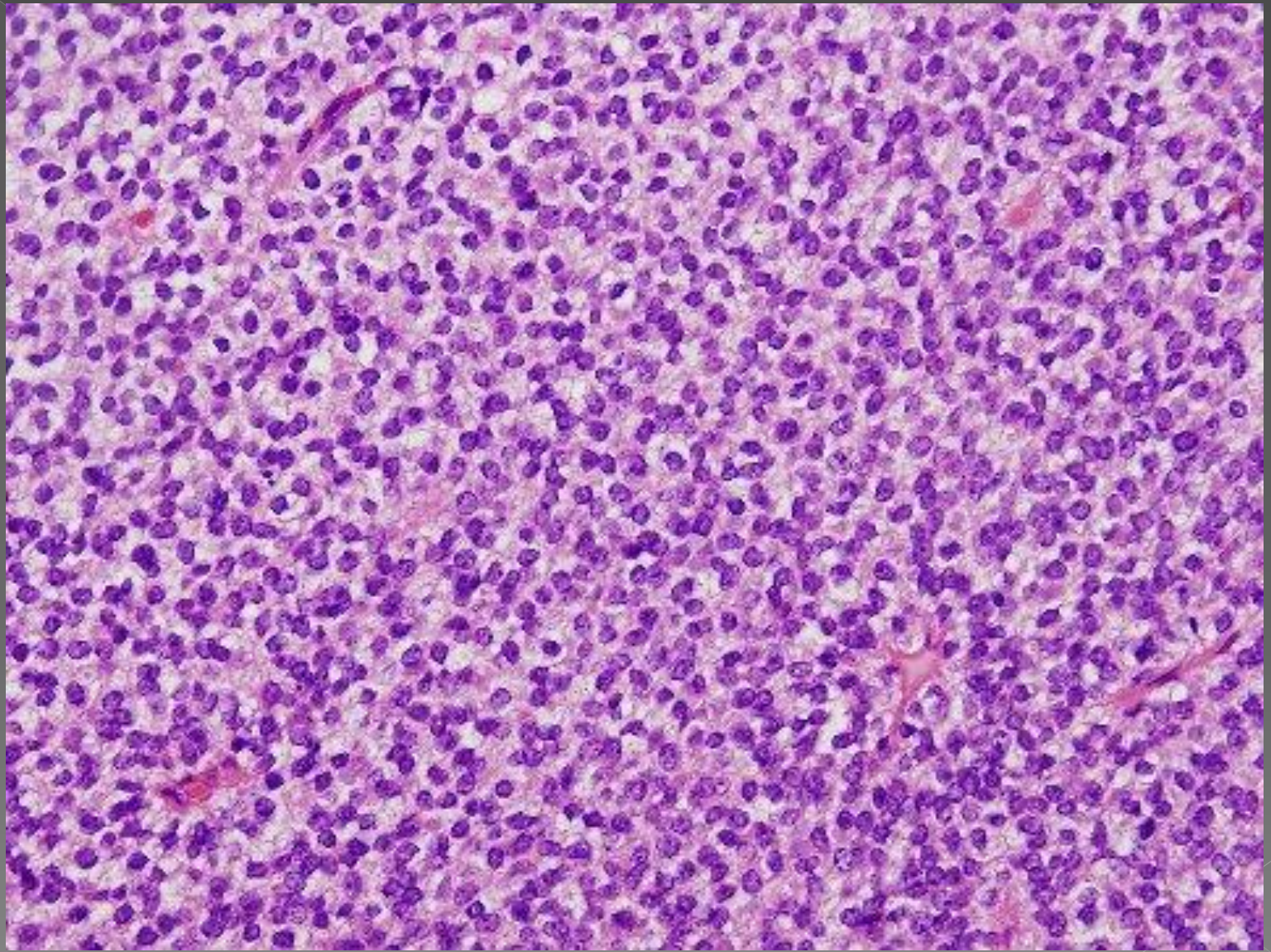
Pain and swelling

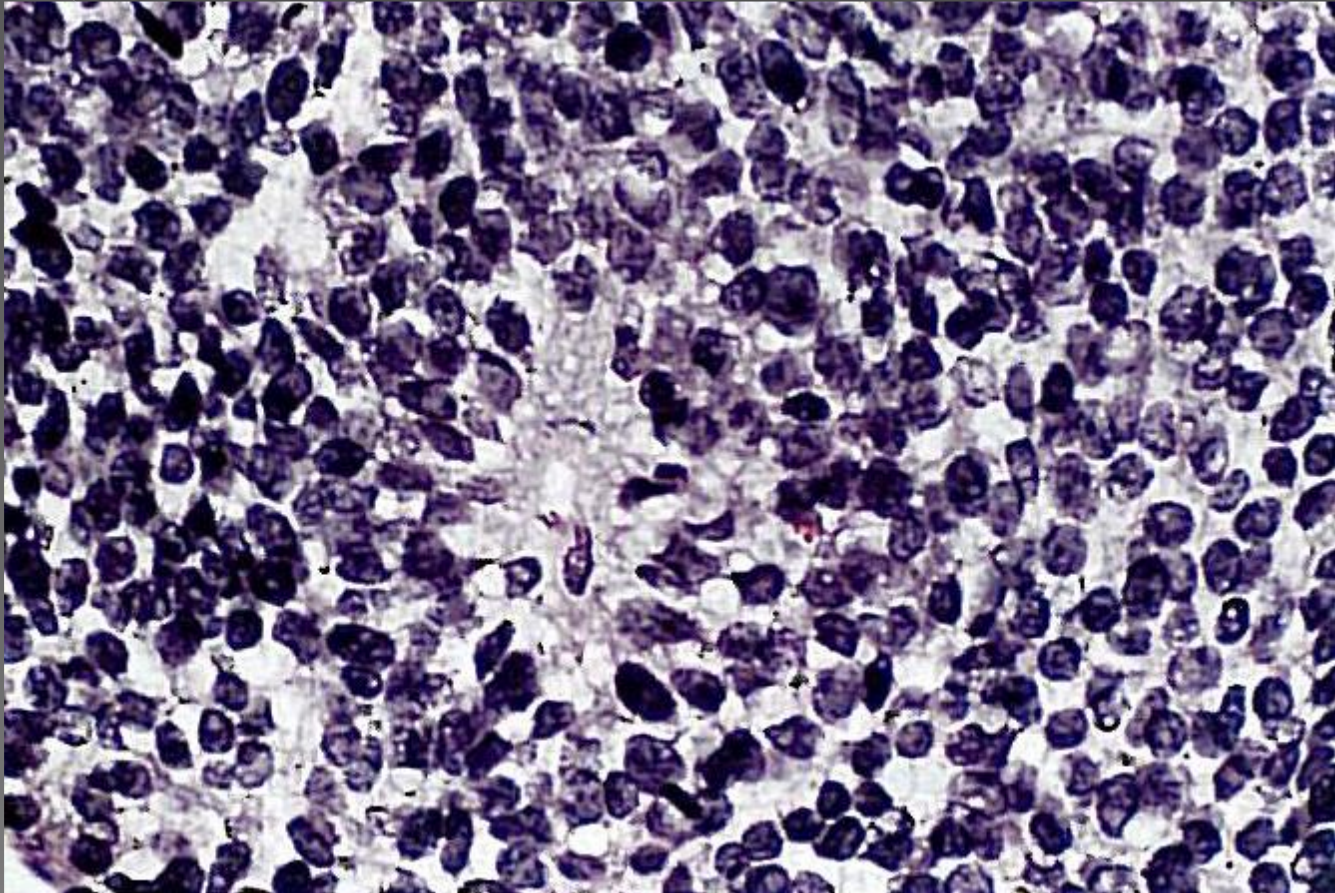
Tooth mobility and paresthesia

Fever and elevated ESR (mistaken for osteomyelitis)

Ewing' sarcoma

- ◉ X-ray
 - Onion skin ppearance
- ◉ Histopathology
 - Small round cells
 - Arranged in sheets
 - Areas of necrosis and hemorrhage





Malignant cells with rounded nuclei and ill-defined cytoplasm

Metastatic tumors of the jaws

- Def.
- Pathogenesis
- Types
- Sites
- Clinicaly
 - Age
 - Site
- X-ray
- Histopathology

Metastatic tumors of the



- Metastatic carcinoma of the mandible

Metastatic tumors of the jaws



Metastatic bronchogenic carcinoma

- poorly-demarcated, patchy radiolucency and destroyed the lamina dura around the root apex. Such small lesions have been mistaken for periapical granulomas radiographically

Neural lesions

- Reactive lesions:

1. Traumatic neuroma

- True neoplasms:

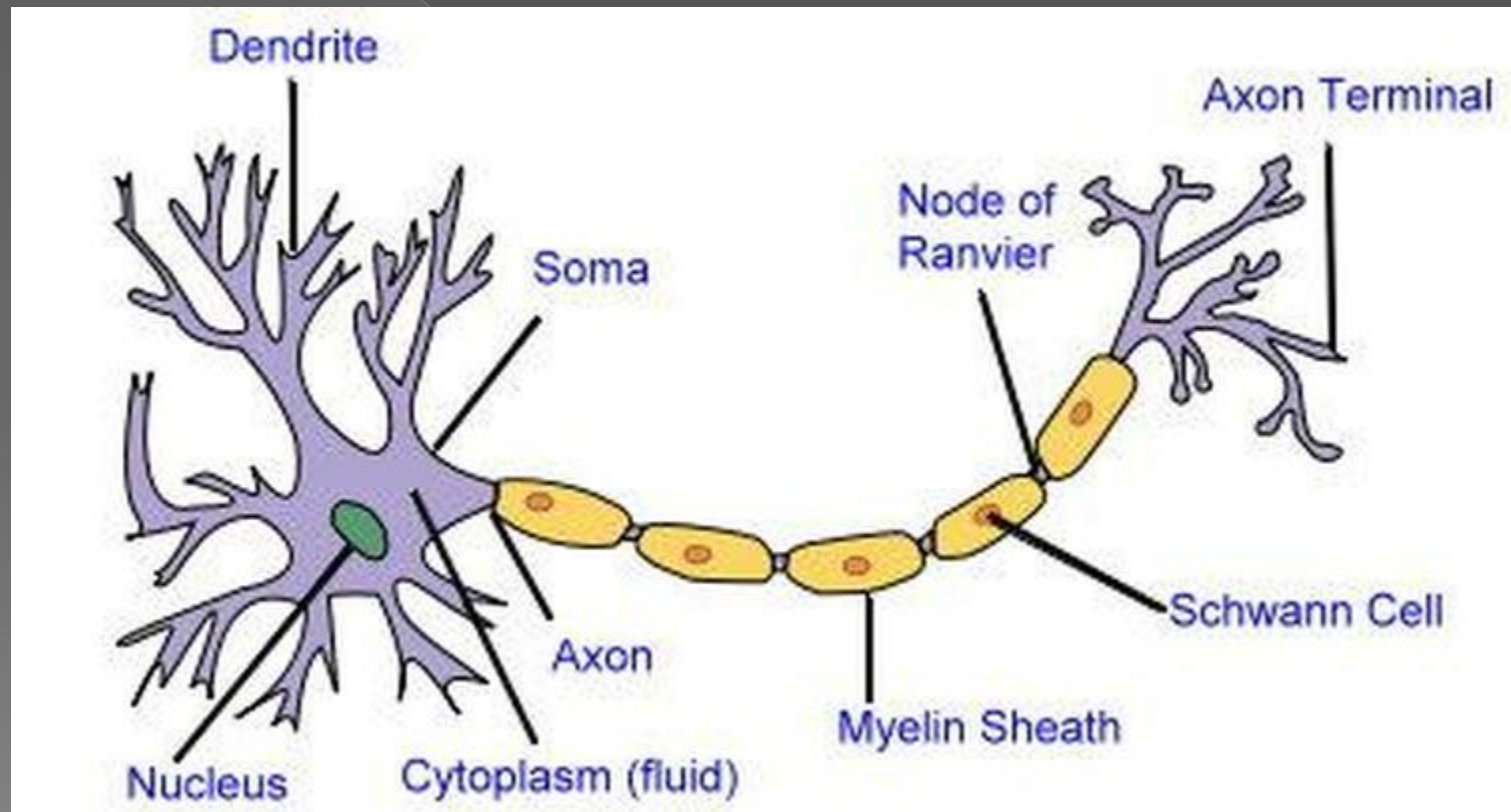
1. Granular cell tumor

2. Congenital epulis of newborn

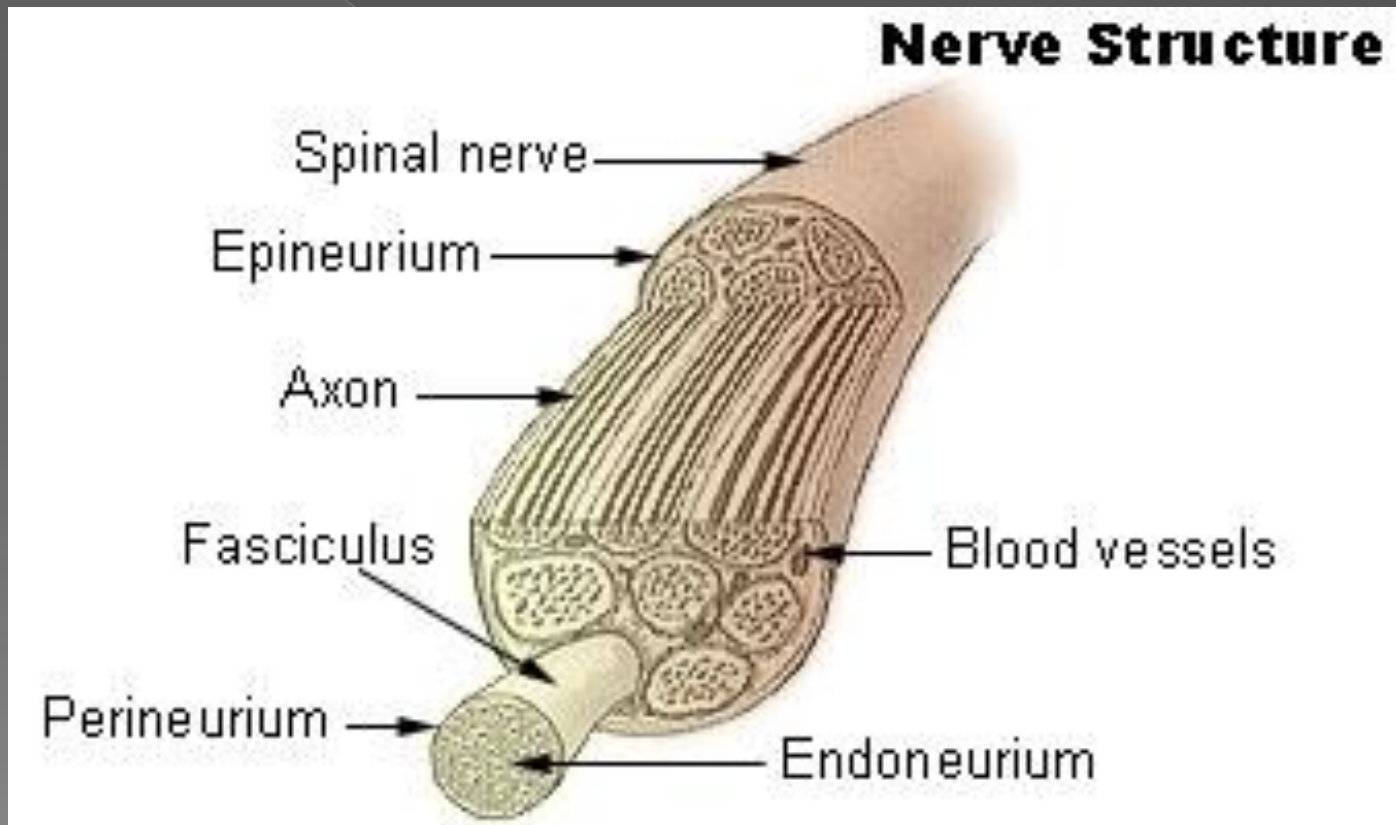
3. Schwannoma

4. neurofibroma

Neural lesions



Neural lesions



Neural lesions

Traumatic neuroma

- Etiology

Injury to peripheral nerve due to trauma, local injection, extraction or an accident

- Clinically

Pain

Mental foramen is the most common site

- Histopathology

- TTT

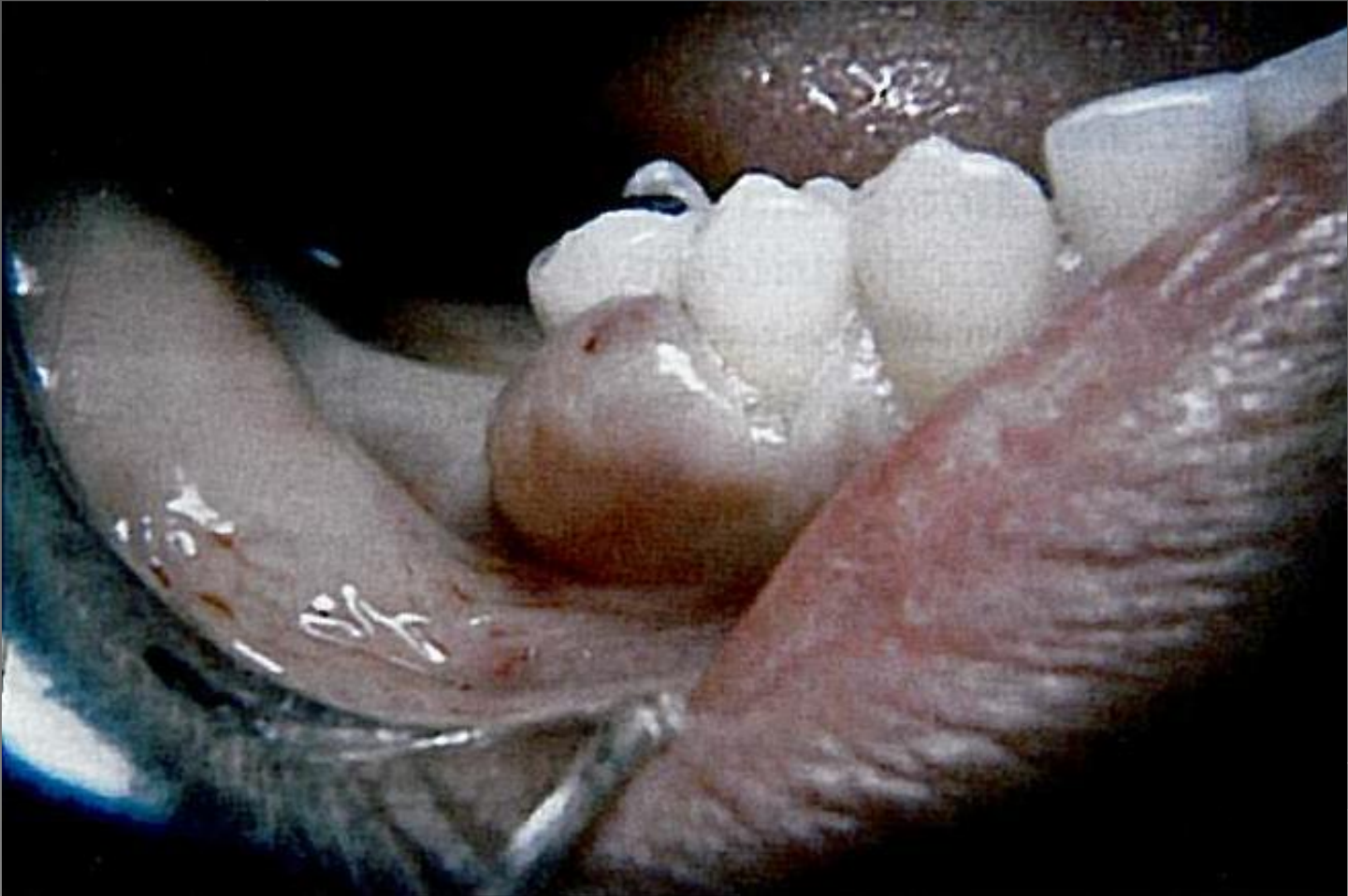
Neural lesions

Traumatic neuroma



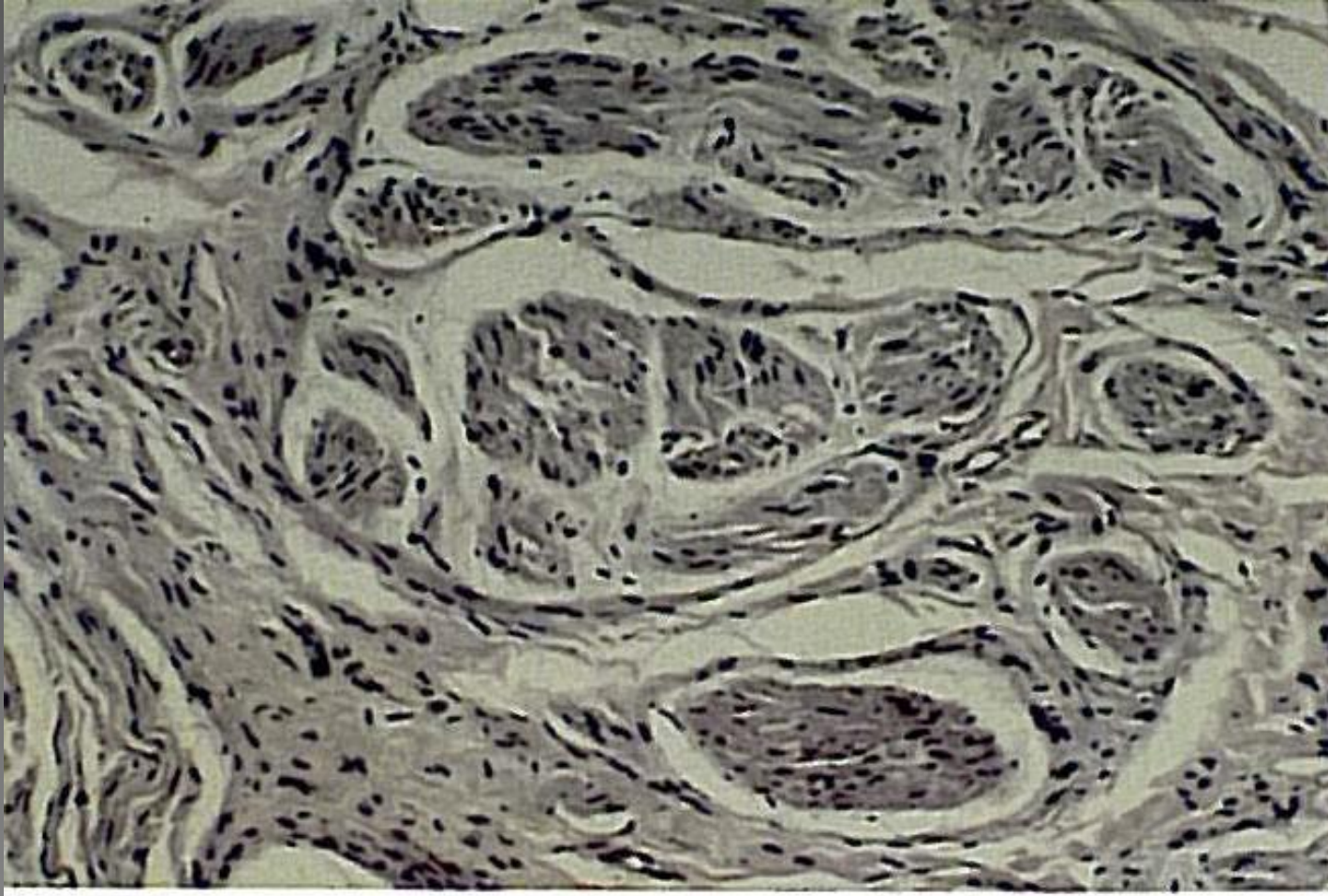
Neural lesions

Traumatic neuroma



Neural lesions

Traumatic neuroma



Tortuous nerve fibers separated with dense fibrous CT

Neural lesions

Oral and congenital granular cell tumor

	Oral granular cell tumor	Congenital epulis of newborn
Def.	Benign tumor of nerve sheath origin	Benign tumor of unknown origin
Clinical features	>40 ys old Tongue Asymptomatic submucosal mass	Newly born infants Gingiva Pedunculated , non-ulcerated mass
Histopathology	Large cells with granular cytoplasm Overlying pseudoepithelomatous hyperplasia S-100 protein +ve	Large cells with granular cytoplasm No pseudoepithelomatous hyperplasia S-100 protein -ve

Neural lesions

Oral and congenital granular cell tumor



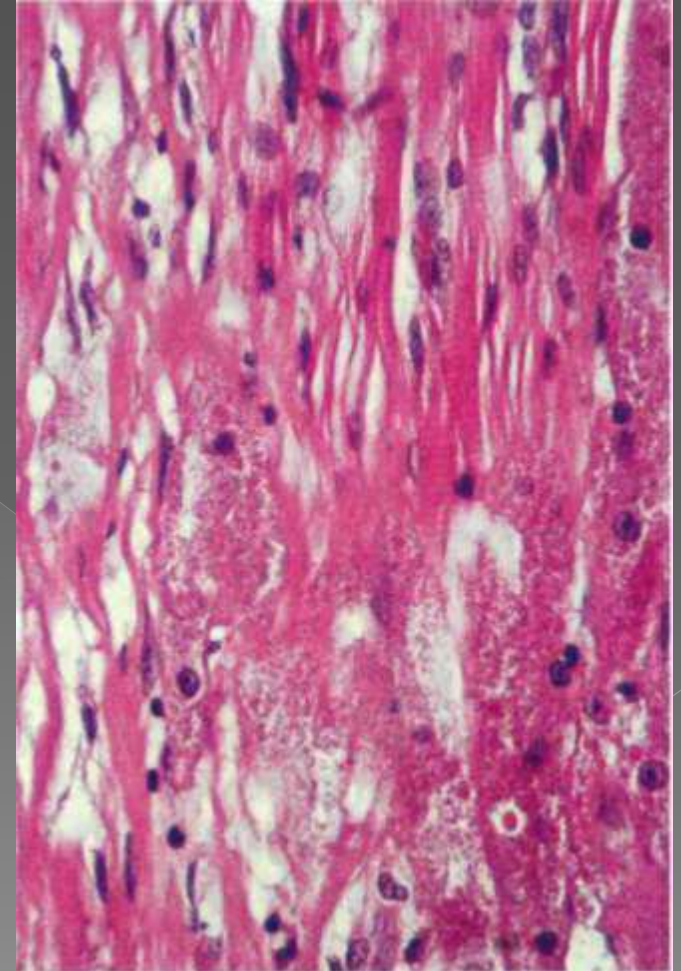
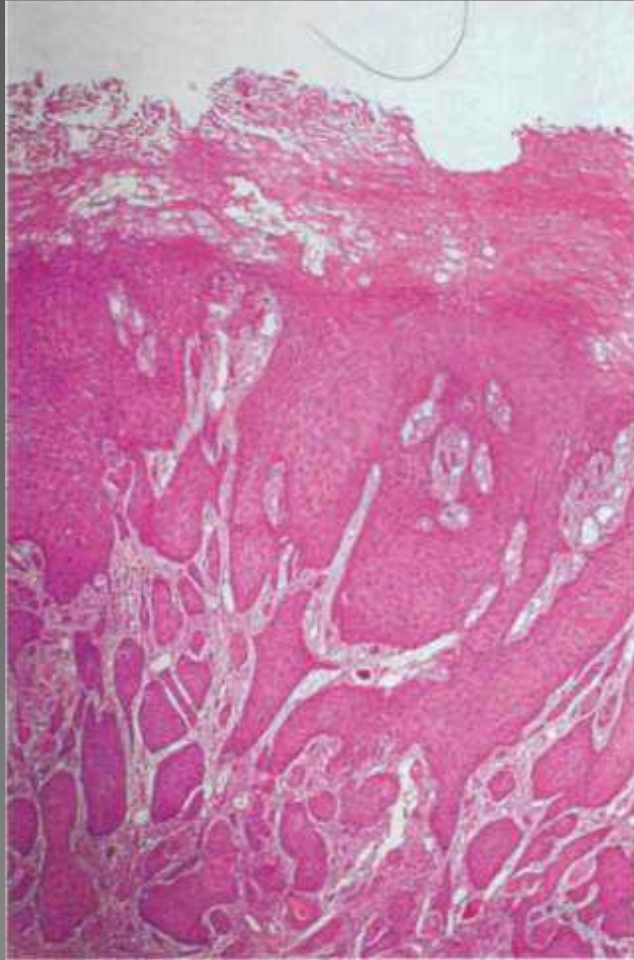
Neural lesions

Oral and congenital granular cell tumor



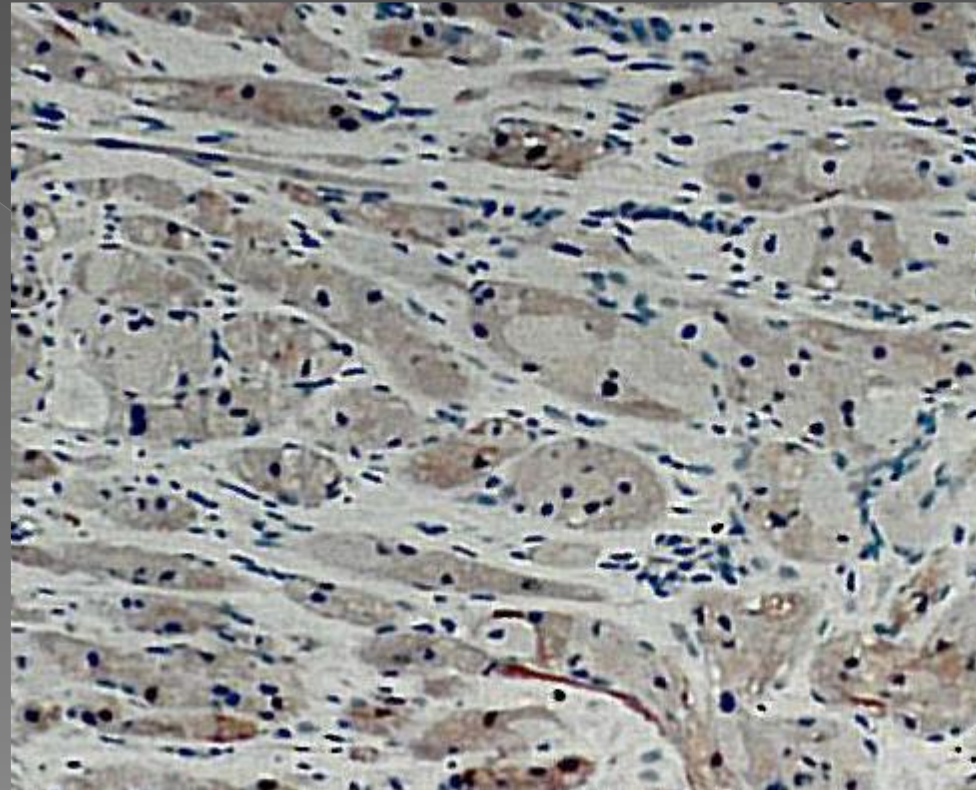
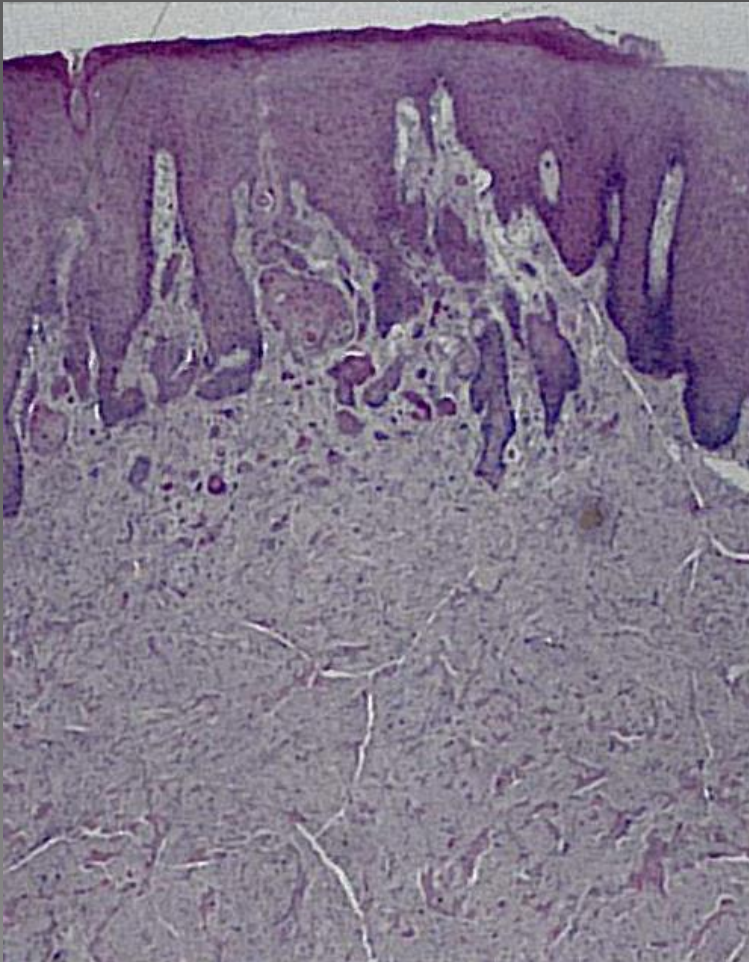
Neural lesions

Oral granular cell tumor



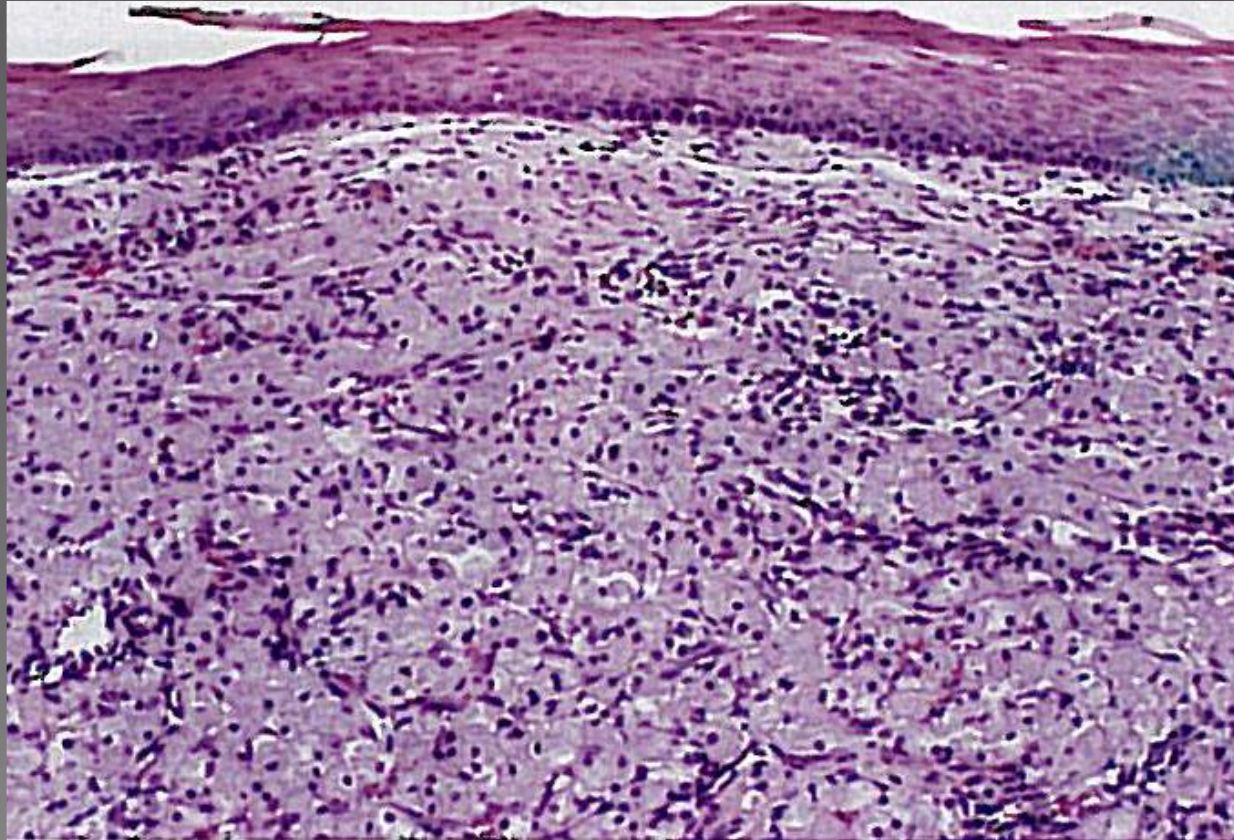
Neural lesions

Oral granular cell tumor



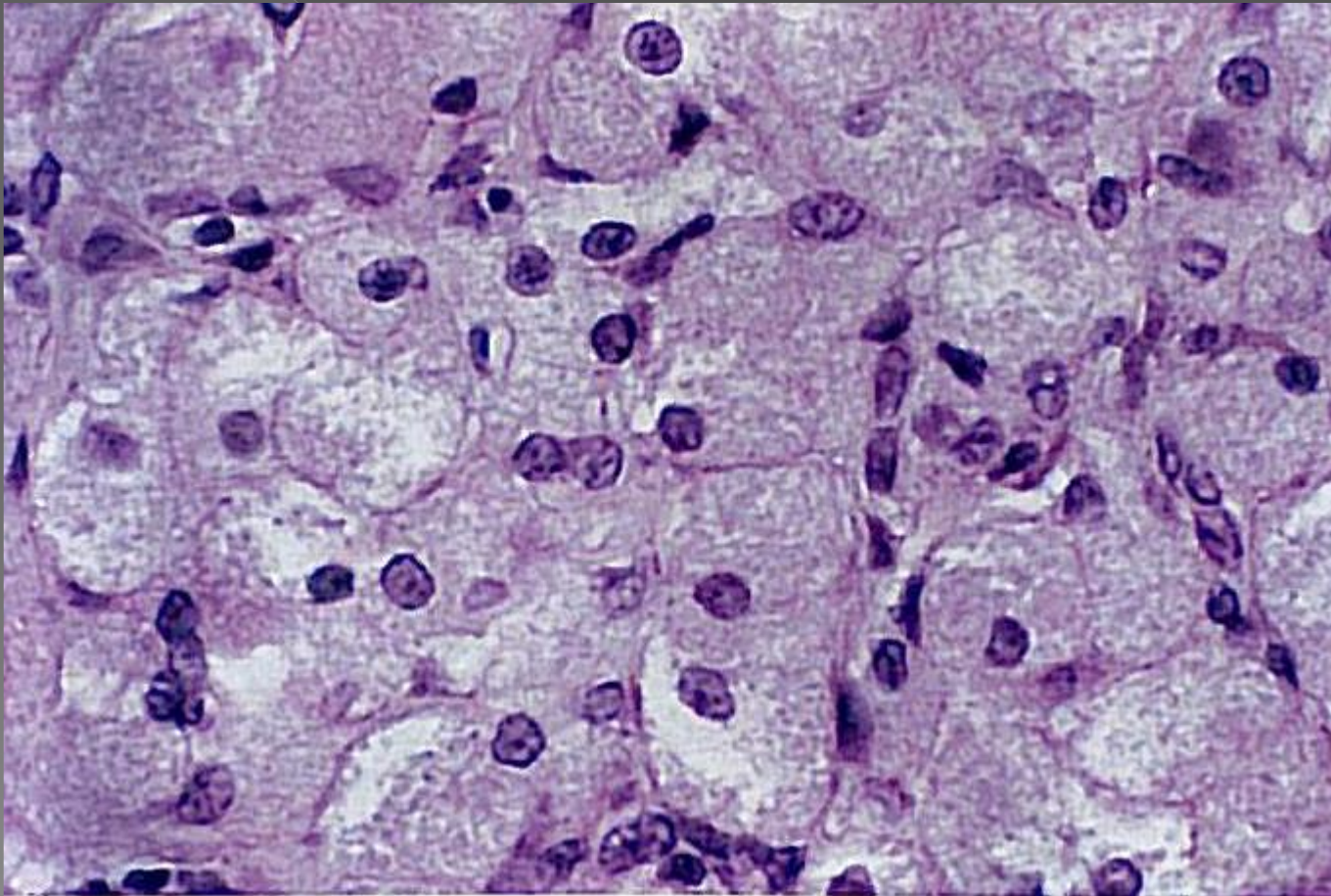
Neural lesions

Congenital granular cell tumor



Neural lesions

Congenital granular cell tumor



Neural lesions

Schwannoma

- Def.

- Clinically

Encapsulated submucosal mass

Tongue

If central → Well-defined radiolucent area (pain and paresthesia)

- Histopathology

Antoni type A

Antoni Type B

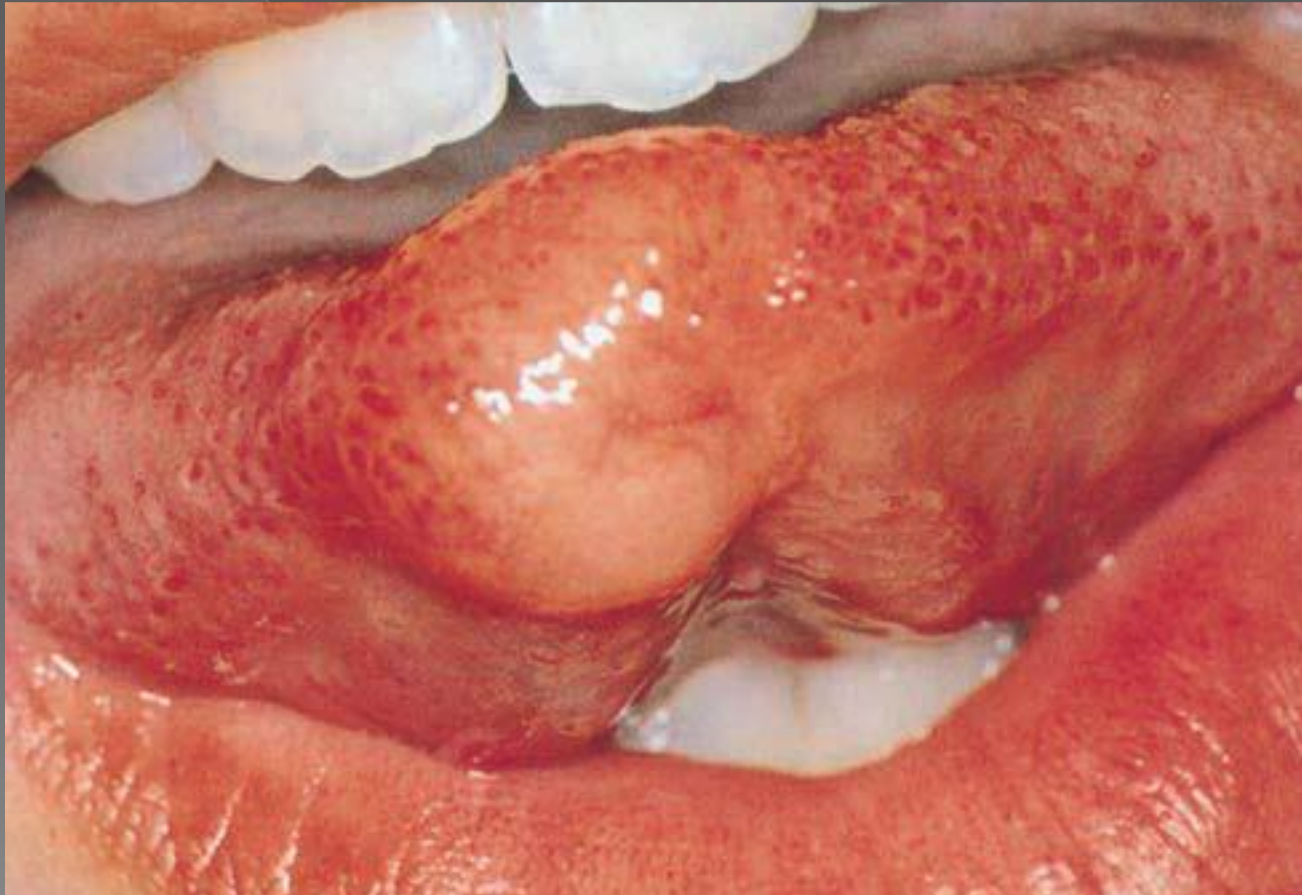
Neural lesions

Schwannoma



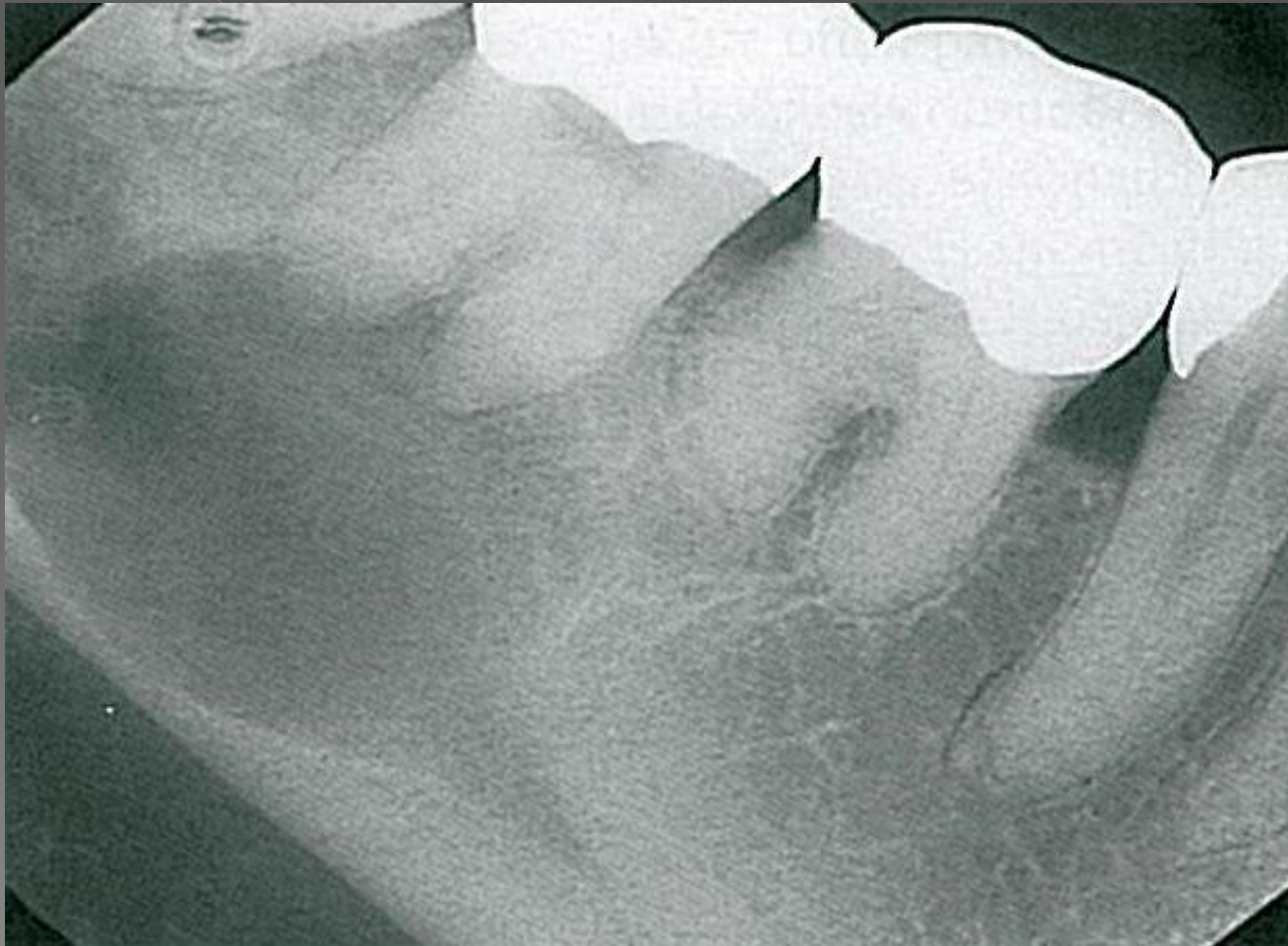
Neural lesions

Schwannoma



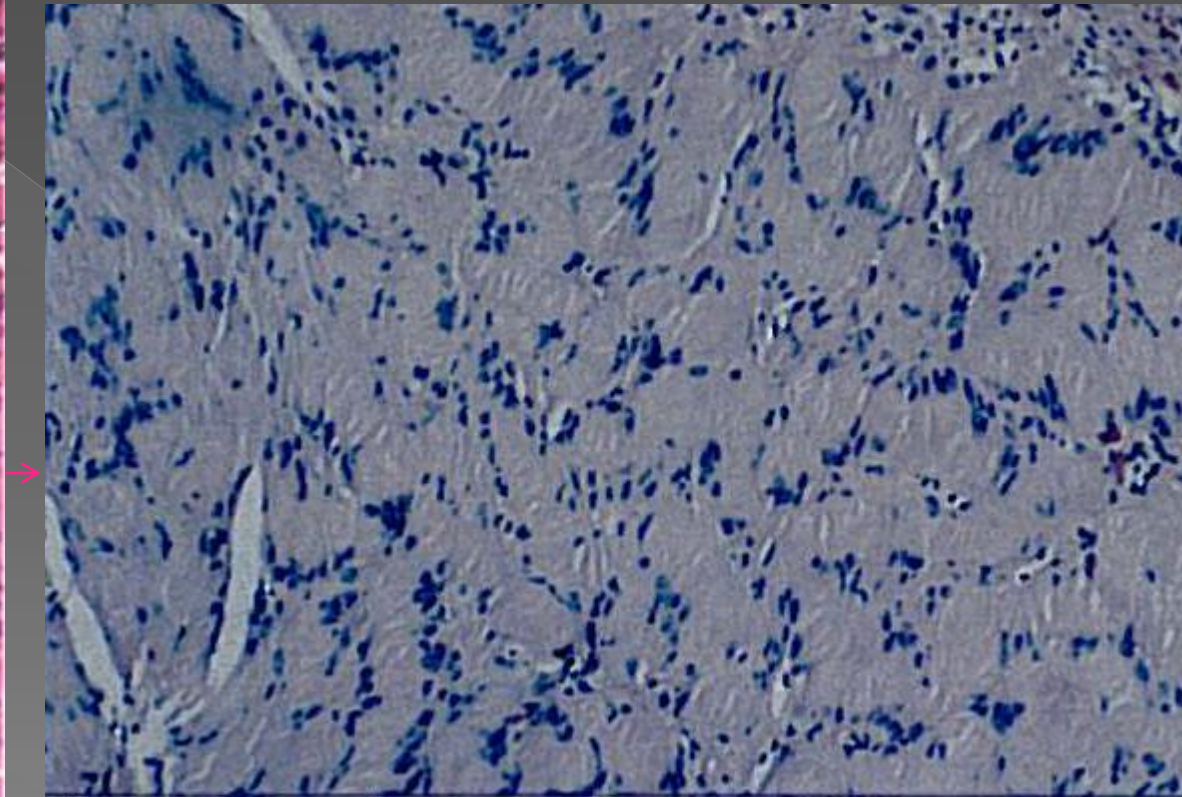
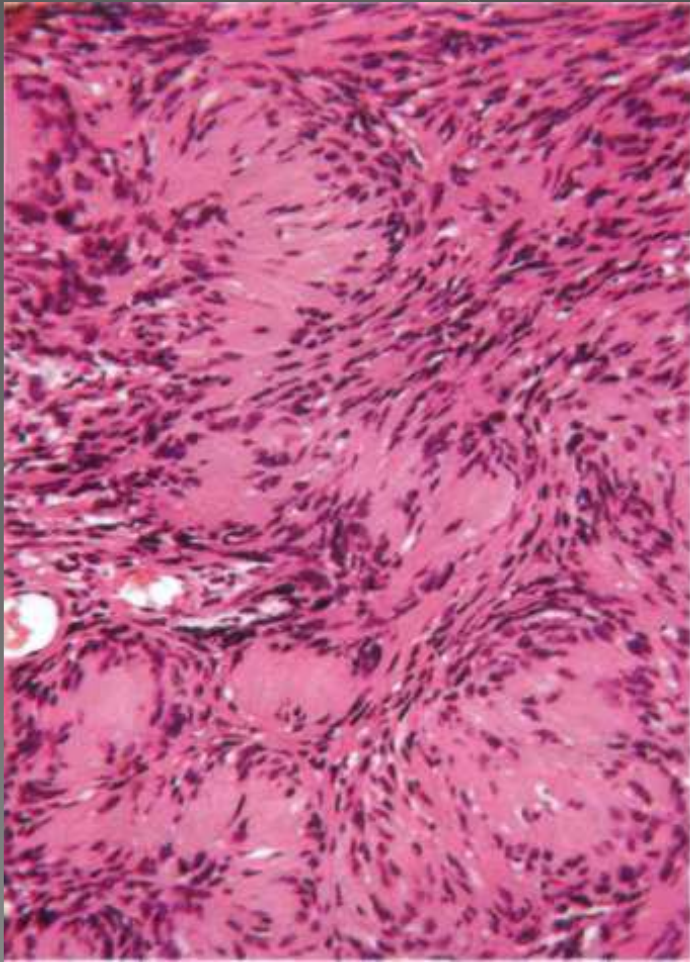
Neural lesions

Schwannoma



Neural lesions

Schwannoma



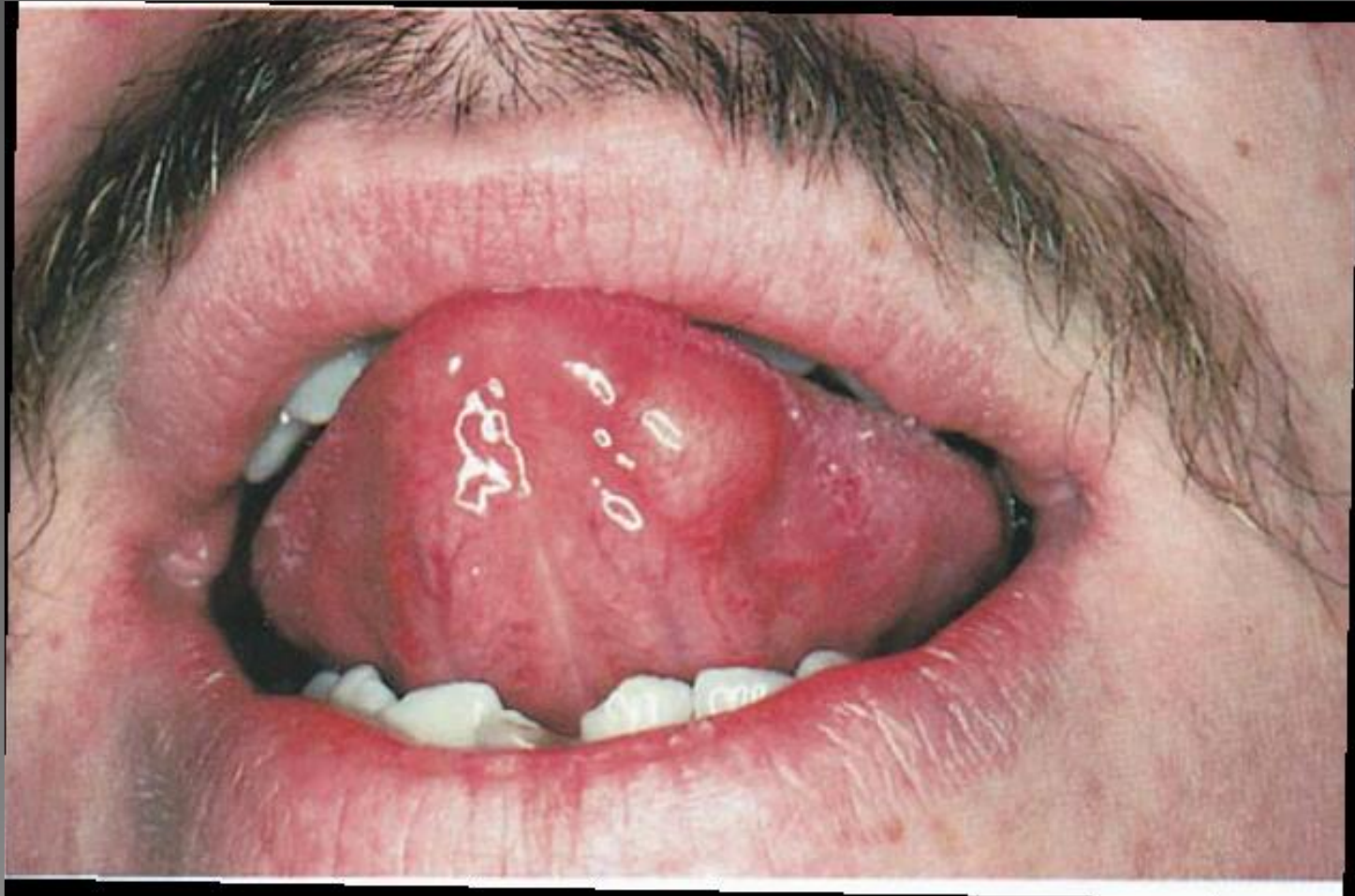
Neural lesions

Neurofibroma

- Def.
- Types
 1. Solitary tumor
 2. Multiple lesions (Neurofibromatosis)
- Clinically
 - Asymptomatic mass
 - Tongue buccal mucosa and oral vestibule
 - Malignant transformation
- Histopathology
 - Spindle shaped cells with wavy nuclei
 - Mast cells are scattered

Neural lesions

Neurofibroma



Neural lesions

Neurofibroma



Neural lesions

Neurofibroma



Neural lesions

Neurofibroma



Neural lesions

Neurofibroma



Neural lesions

Neurofibroma



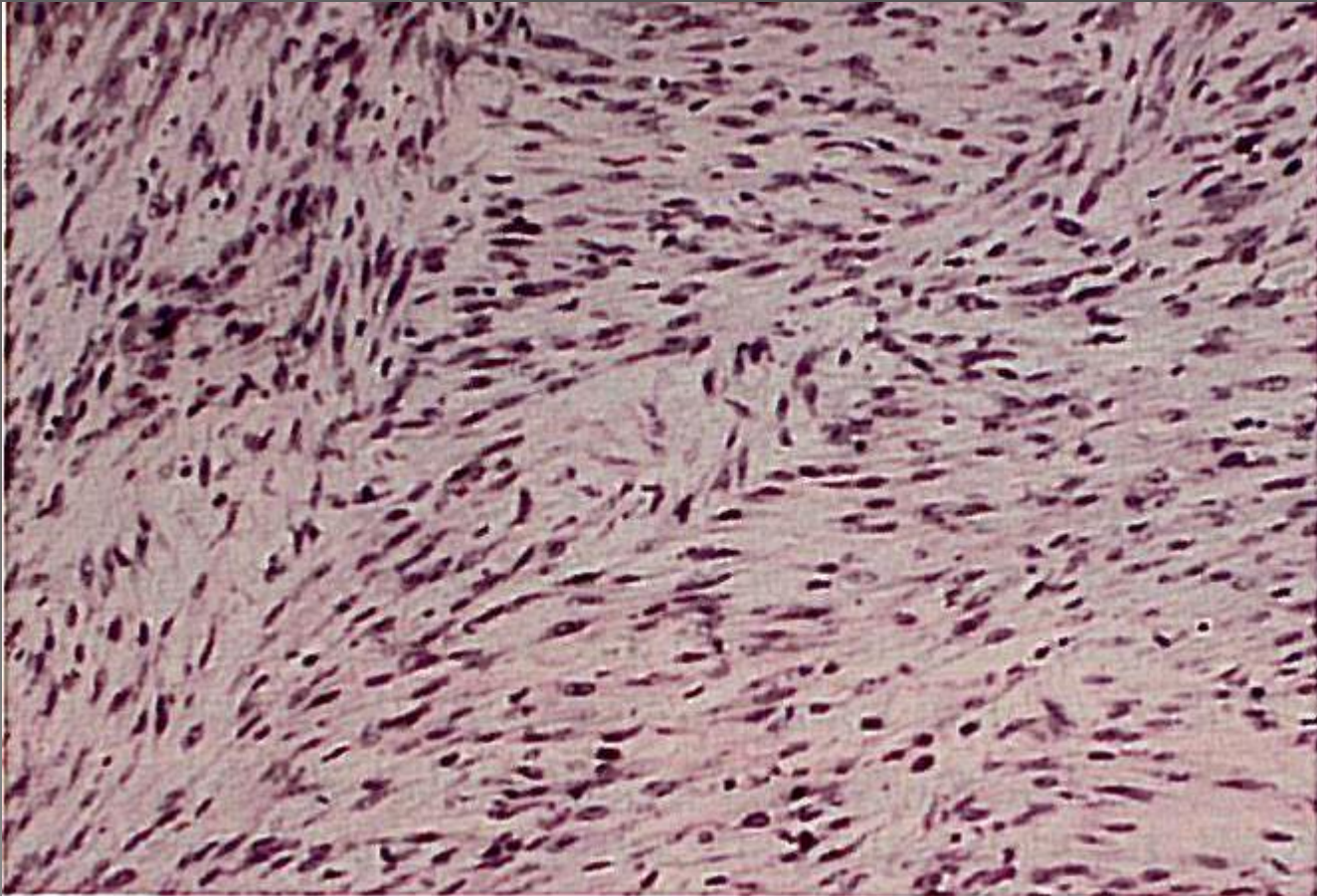
Neural lesions

Neurofibroma

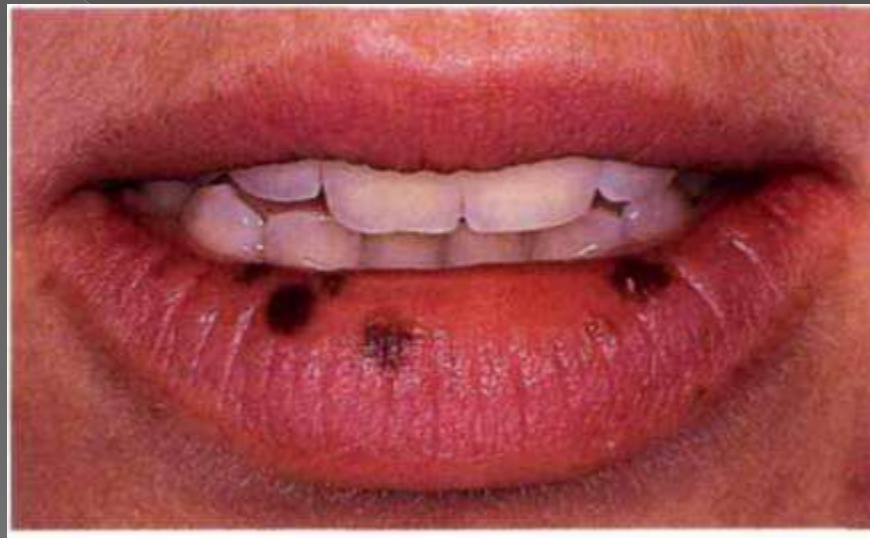


Neural lesions

Neurofibroma



Café au lait pigmentation



Peutz Jehger's syndrome

Café au lait pigmentation



Fibrous dysplasia

Fat lesions

Lipoma

- ◉ Def.
- ◉ Clinically
- ◉ Histopathology

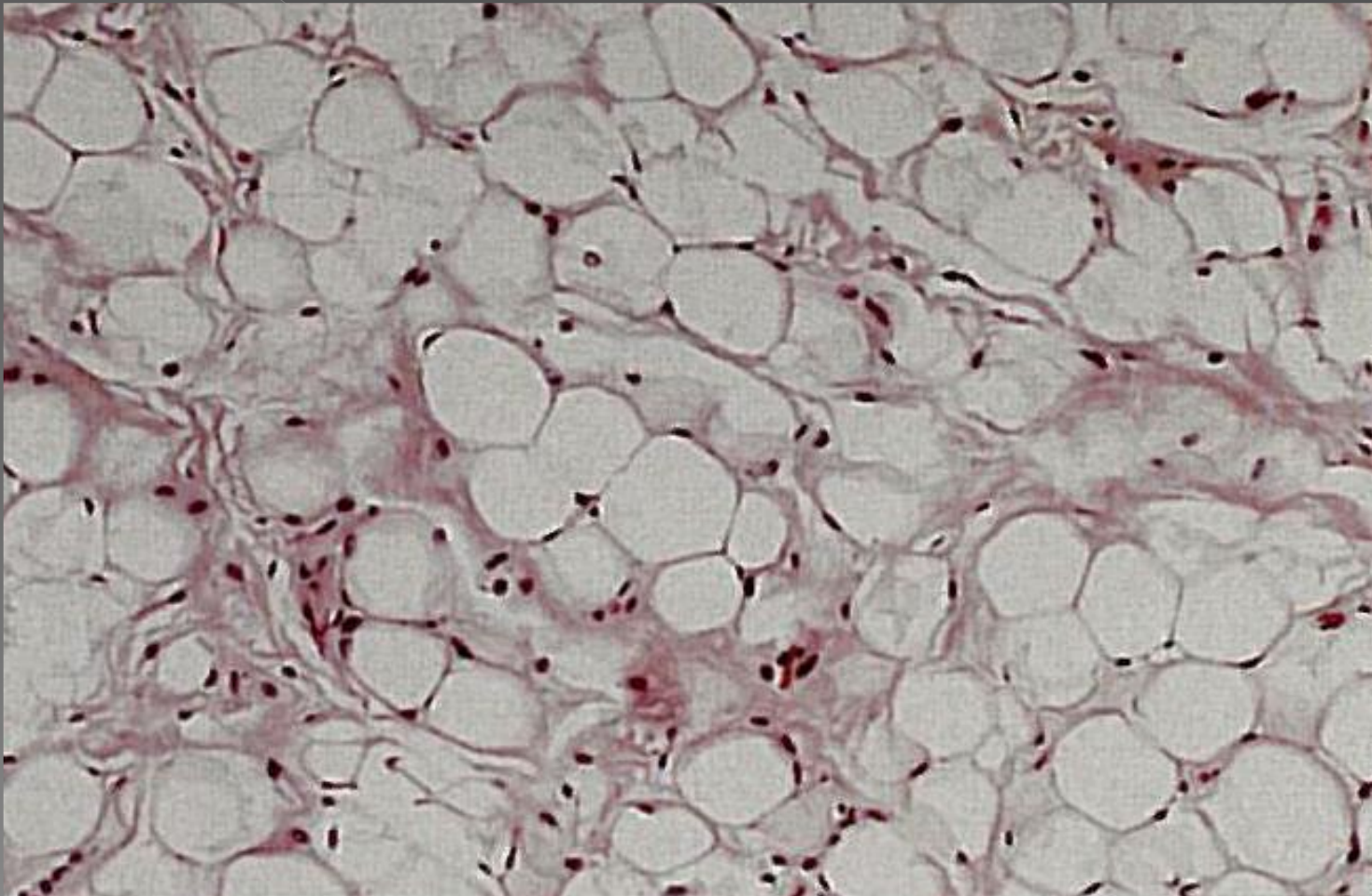
Fat lesions

Lipoma



Fat lesions

Lipoma



Muscle lesions

Leiomyoma and leiomyosarcoma

- Def.
- True neoplasms of smooth muscle origin (Wall of blood vessels and circumvallate papillae)
- Clinically
- Histopathology

Difficult to be differentiated from neurofibroma and schwannoma (spindle cell proliferation)

Immunohistochemical marker : Actin

Muscle lesions

Leiomyoma



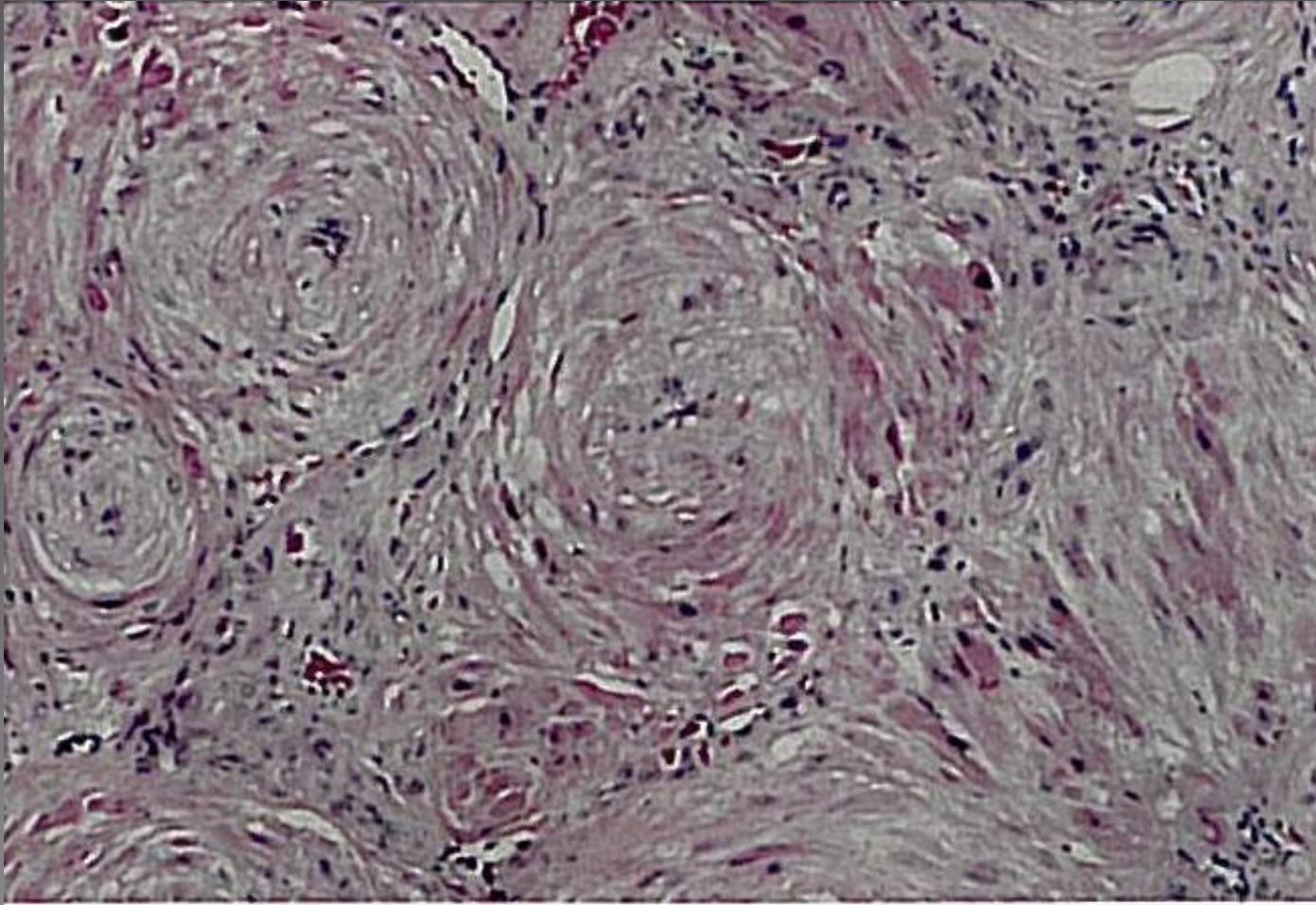
Muscle lesions

Leiomyoma



Muscle lesions

Leiomyoma



Muscle lesions

Leiomyosarcoma



Muscle lesions

Rhabdomyoma and Rhabdomyosarcoma

- Def.

True neoplasms of striated muscle origin

- Clinically

Floor of the mouth, tongue, palate and buccal mucosa

Asymptomatic submucosal mass

- Histopathology

Rhabdomyoma: Adult type and fetal type and

Rhabdomyosarcoma: Embryonal, alveolar and pleomorphic

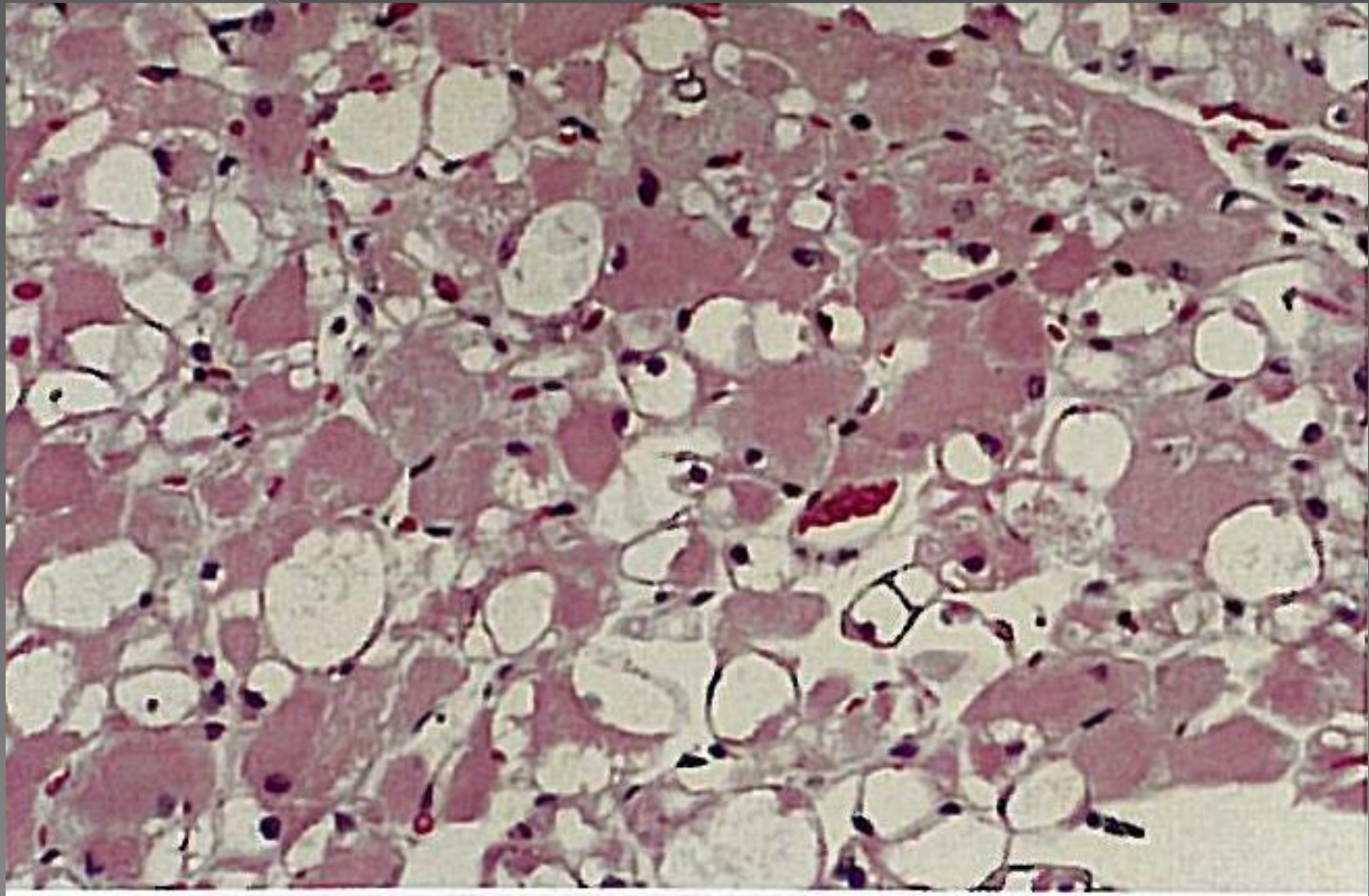
Muscle lesions

Rhabdomyoma



Muscle lesions

Rhabdomyoma



Muscle lesions

Rhabdomyosarcoma



Muscle lesions

Rhabdomyosarcoma



Same pt with extension of the lesion

Muscle lesions

Rhabdomyosarcoma

