Connective tissue neoplasm

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Connective tissue neoplasm

Fibrous tissue lesions

Vascular lesions

Neural lesions

Muscle and Smooth muscle lesions

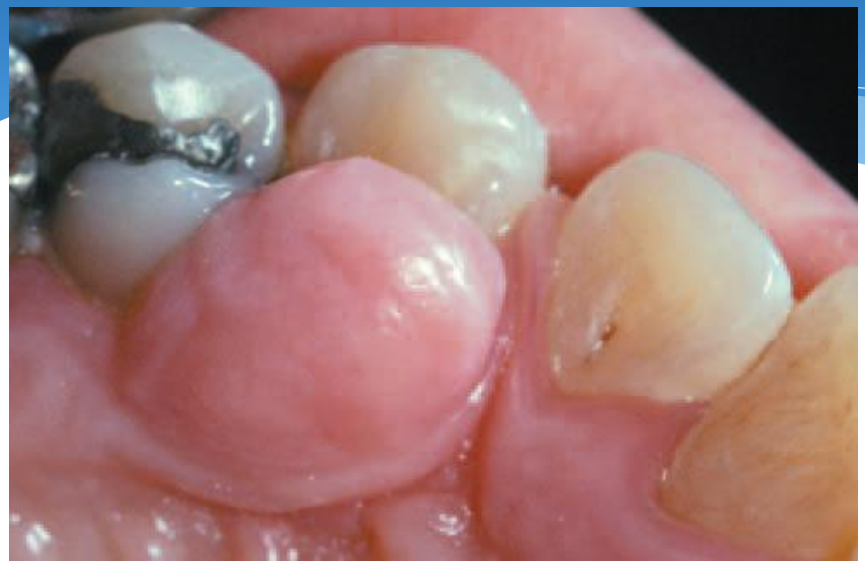
Adipose tissue lesions

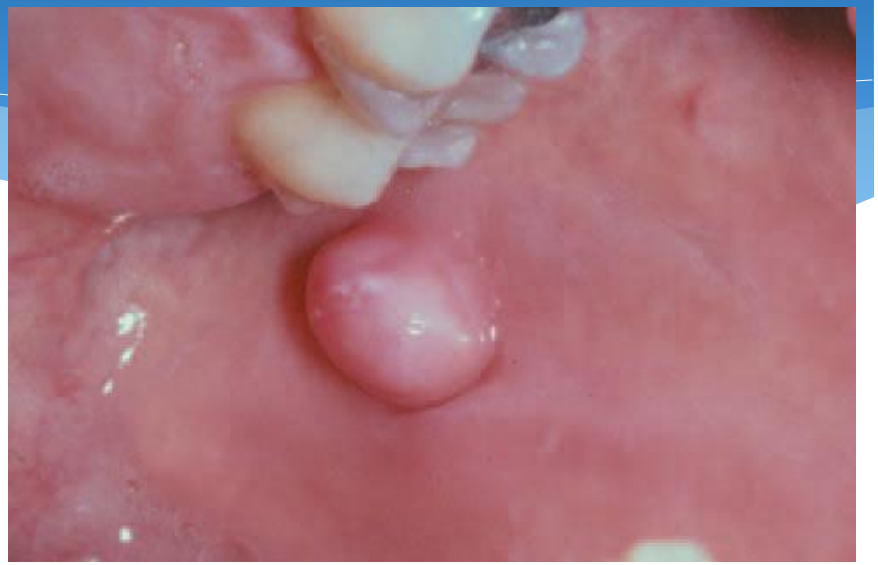
Connective Tissue Lesions

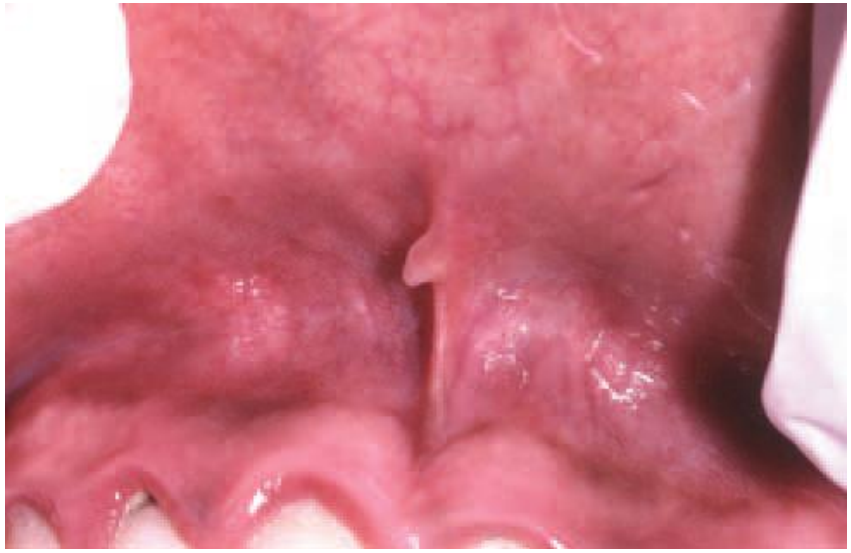
"Fibrous Lesions"

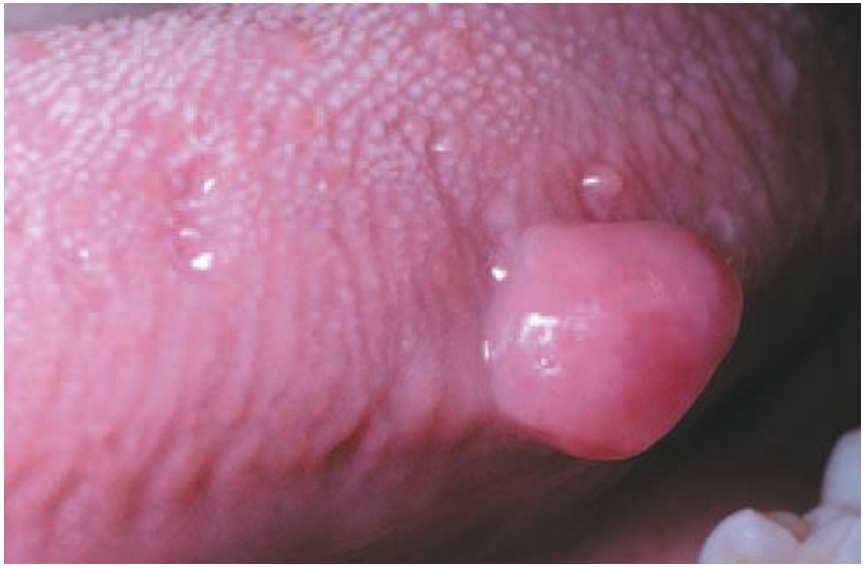
- Peripheral fibroma
  - Etiology: Reactive (secondary to overexuberant repair)
  - Origin: Connective tissue of the submucosa
  - Clinical features:
    - Predilection for young adults
    - Female>male
    - Location: commonly at the gingiva anterior to molars
    - Similar in color to the surrounding tissue

Peripheral fibroma





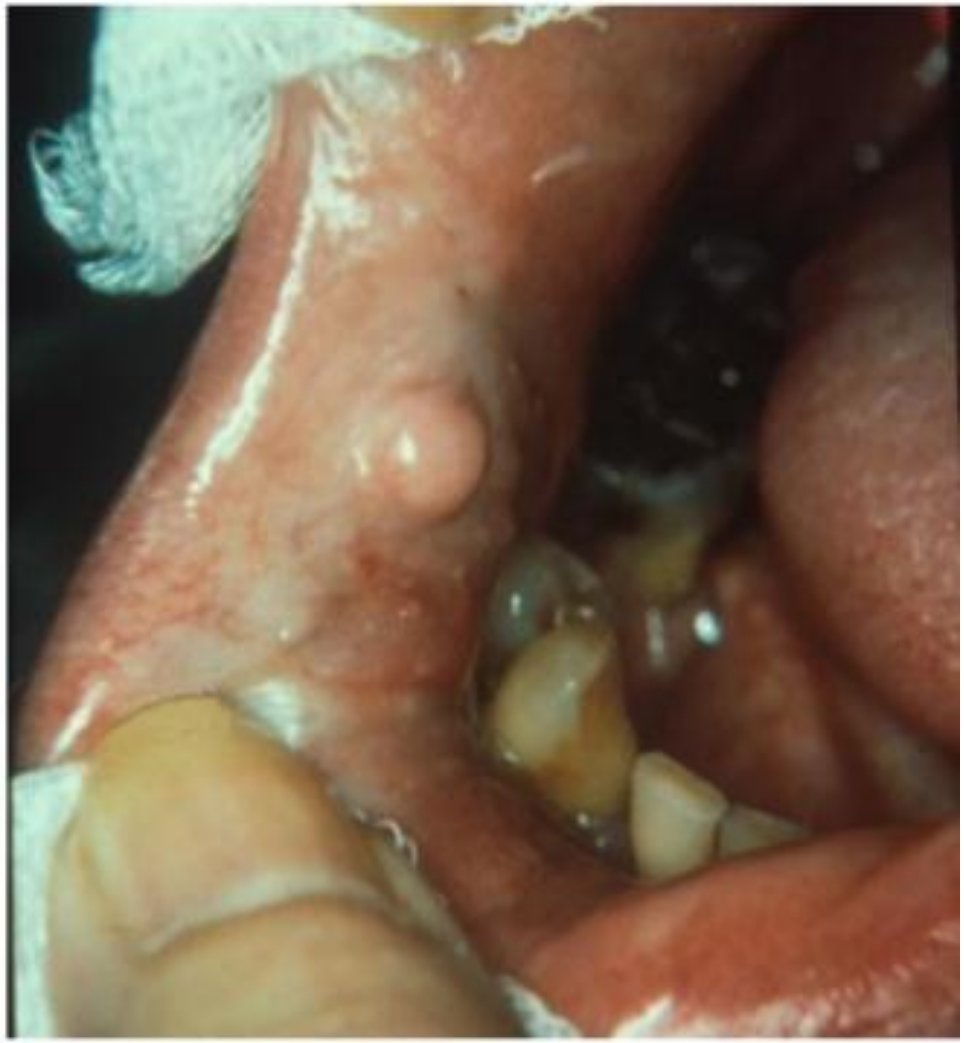




Connective Tissue Lesions

"Fibrous Lesions"

- Focal fibrous hyperplasia:
  - It is common in frequently traumatized area

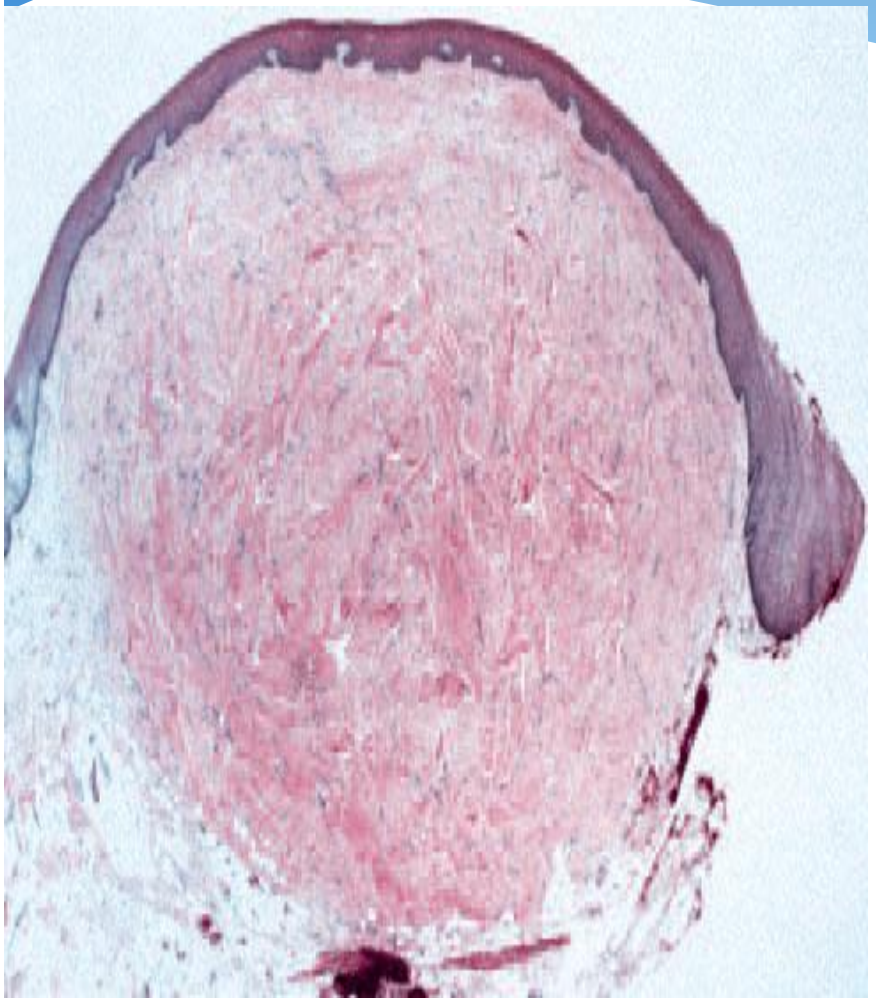


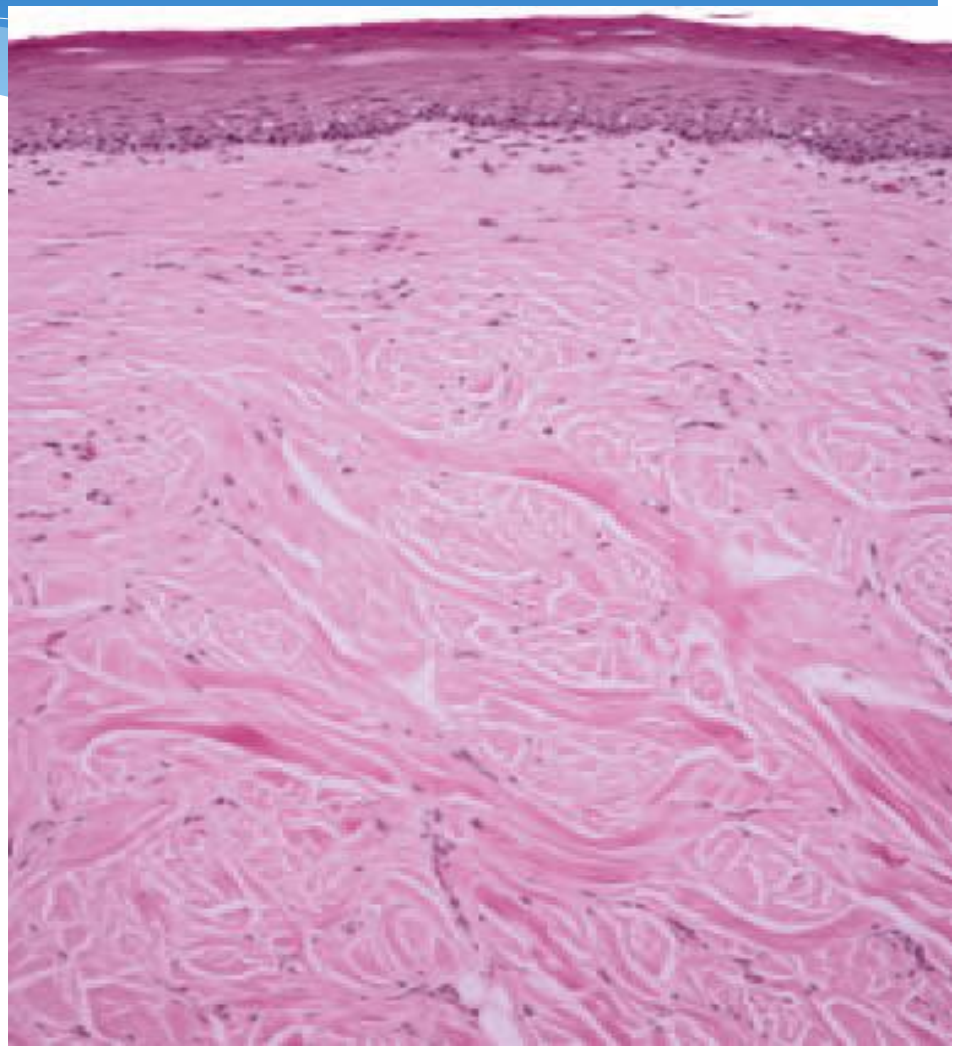
Connective Tissue Lesions

"Fibrous Lesions"

- Peripheral fibroma
  - Histopathology:
    - Focal fibrous hyperplasia: Highly collagenous and relatively avascular
    - Mild to moderate inflammatory cell infiltrate
    - Subtypes:
      - Peripheral ossifying fibroma
      - Peripheral odontogenic fibroma
      - Giant cell fibroma
  - Differential diagnosis: Pyogenic granuloma & peripheral giant cell granuloma
  - Treatment: Local excision

Peripheral fibroma histopathology





Giant Cell Fibroma

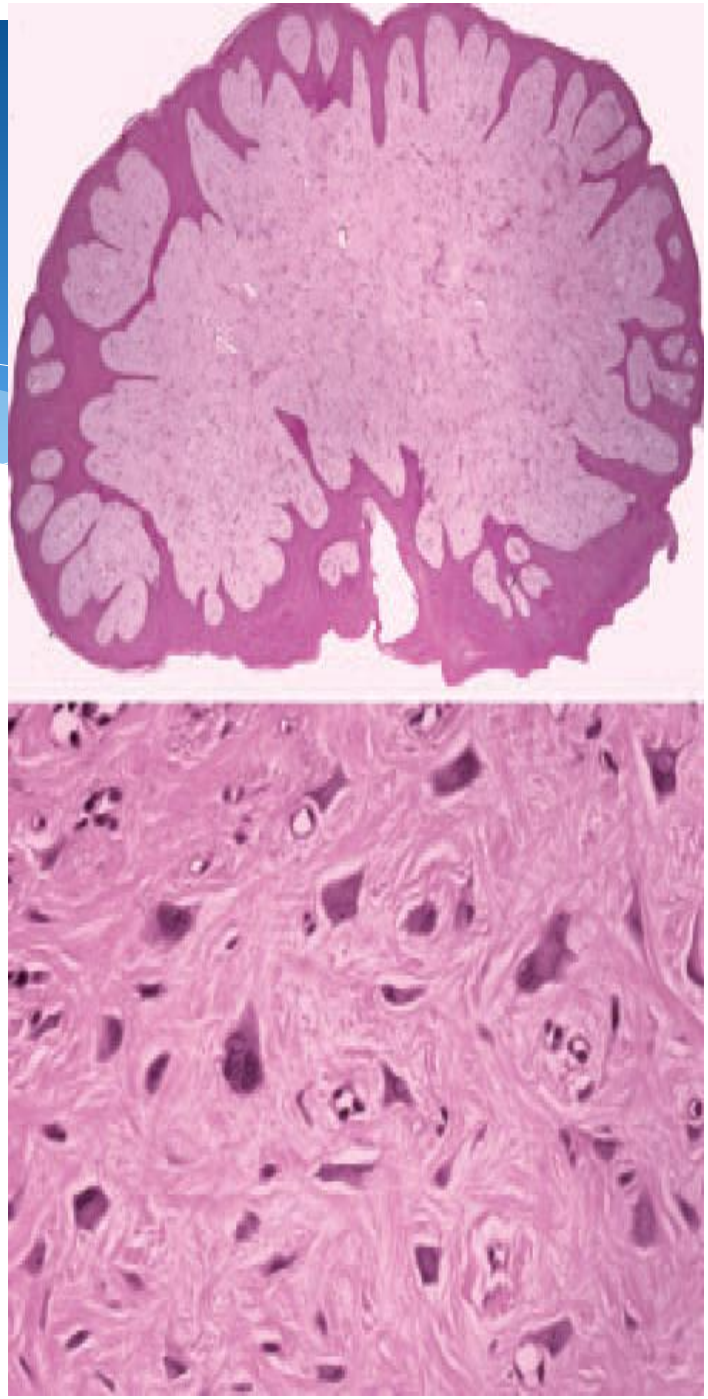
Clinical Features

- Occurs at a much younger age compared to fibroma and presents as asymptomatic sessile/pedunculated nodule <1cm
- Not associated with trauma
- More than half the cases occurs on the gingiva and has a papillary surface; Mandible>Maxilla
- Similar to retrocuspid papilla

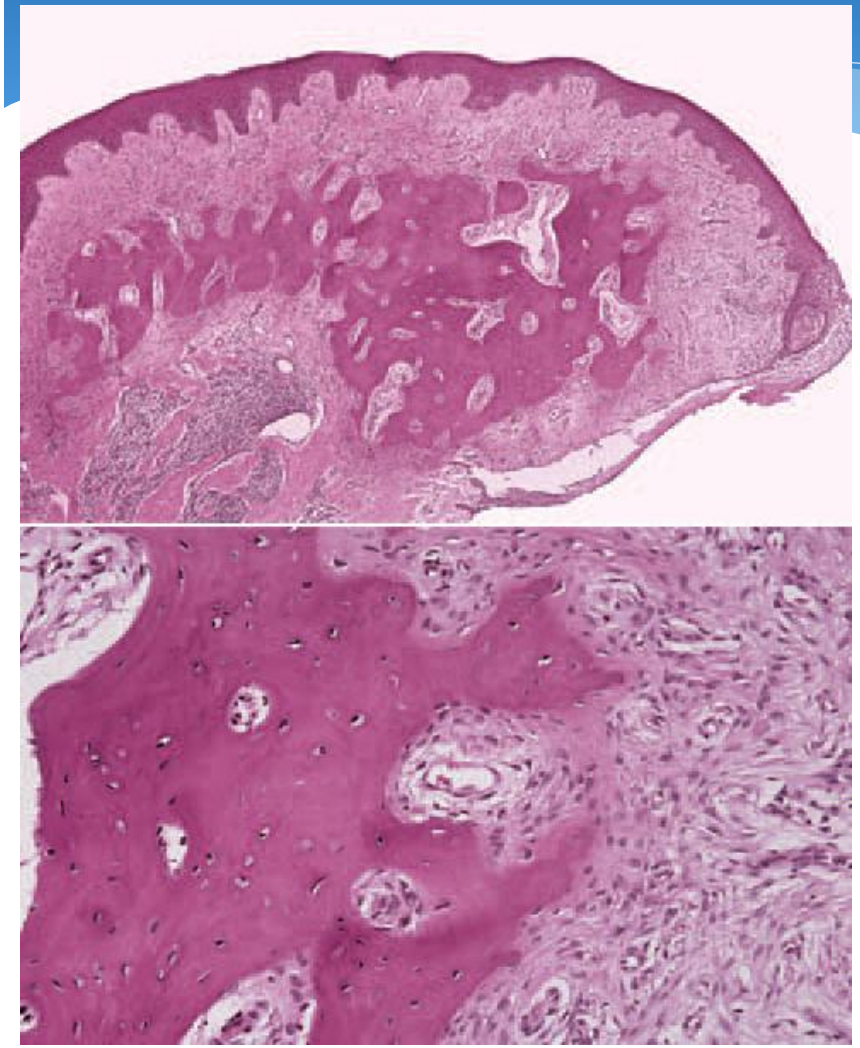
Treatment: Conservative surgical excision
Recurrence is rare

Gaint cell fibroma

* consisting of fibrous connective tissue without inflammation and covered with stratified squamous hyperplastic epithelium. The most characteristic histological feature is the presence of large spindle-shaped and stellate-shaped mononuclear cells and multinucleated cells.

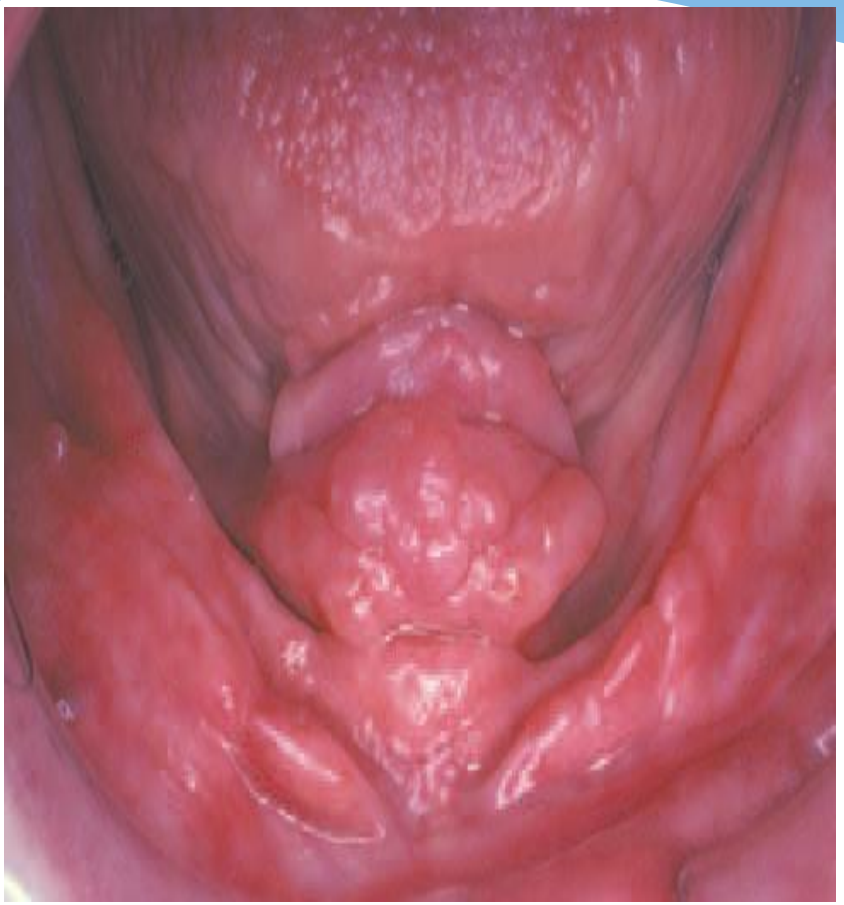


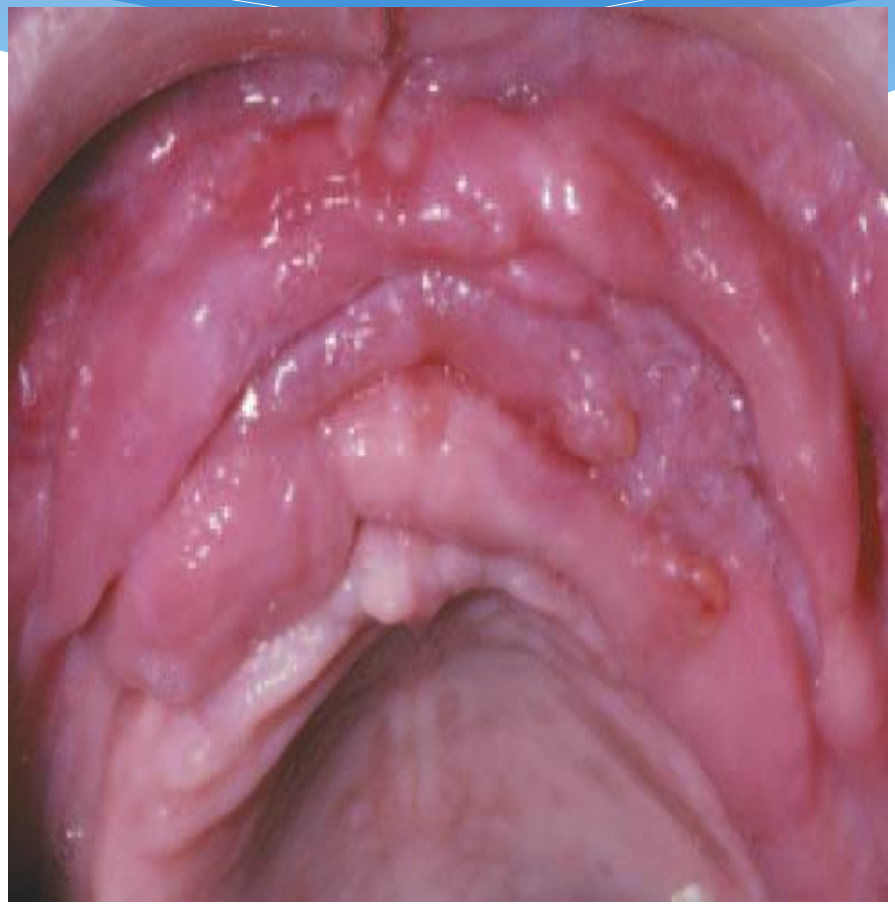
Ossifing fibroma



* **Microscopic examination showed fibrous connective tissue contain fibroblasts, collagen bundles with bone large trabeculae**

Denture induced fibrous hyperplasia



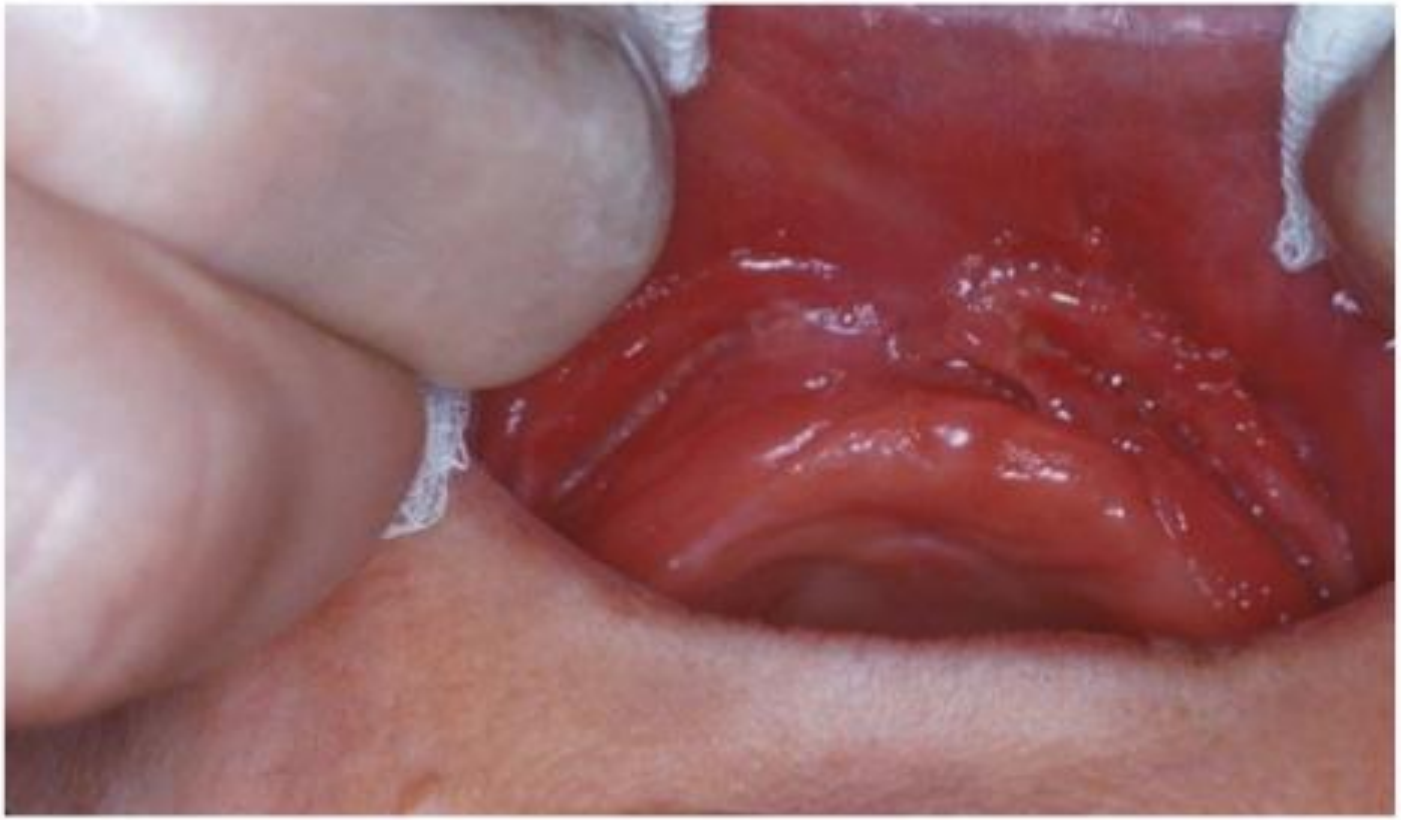


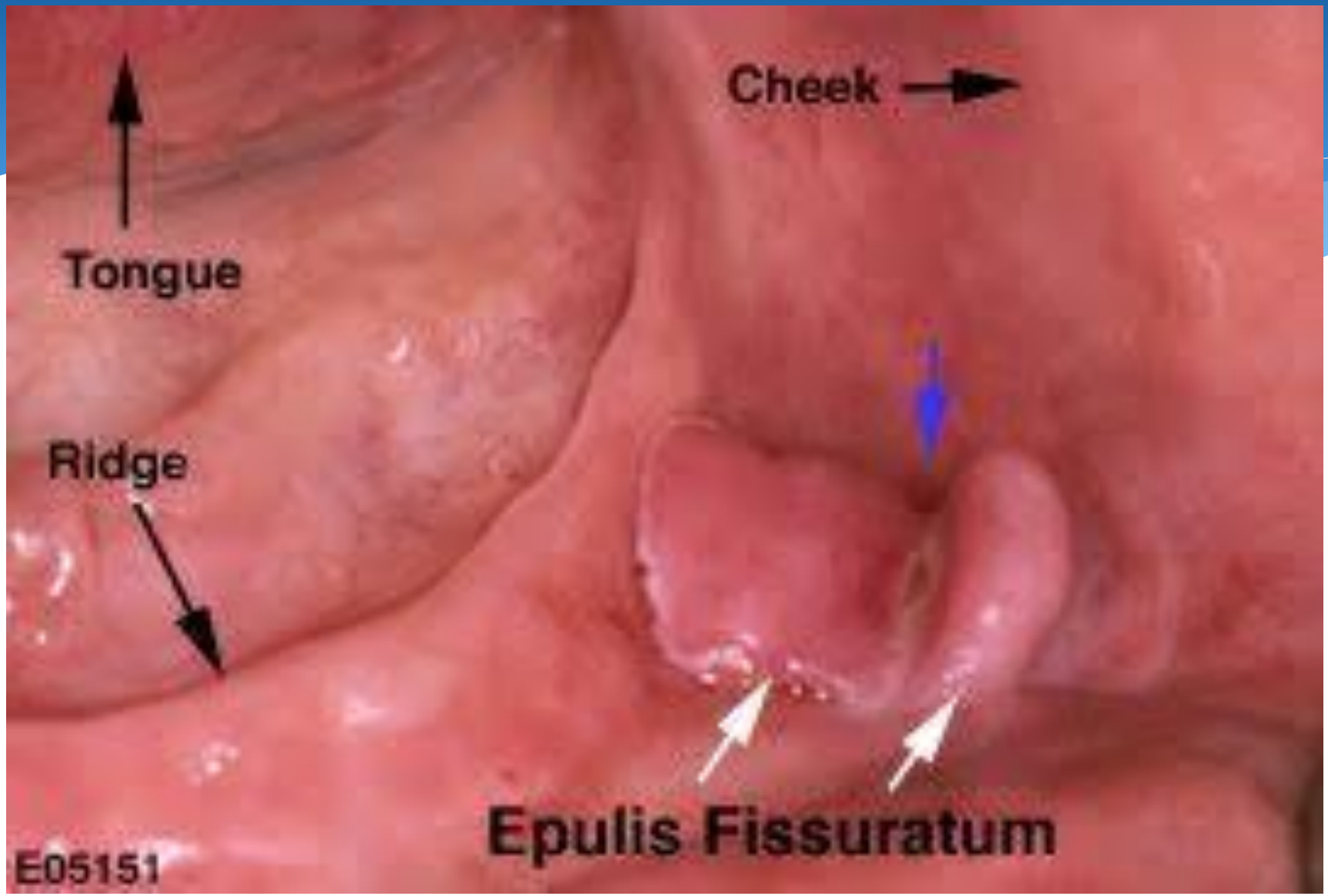
Connective Tissue Lesions

"Fibrous Lesions"

- Denture-induced fibrous hyperplasia
  - Etiology: Chronic trauma produced by an ill-fitting denture
  - Clinical features: Occurs in the vestibular mucosa
    - Overexuberant fibrous connective tissue reparative response
    - Painless folds of fibrous tissue
  - Treatment: Surgical excision is usually required

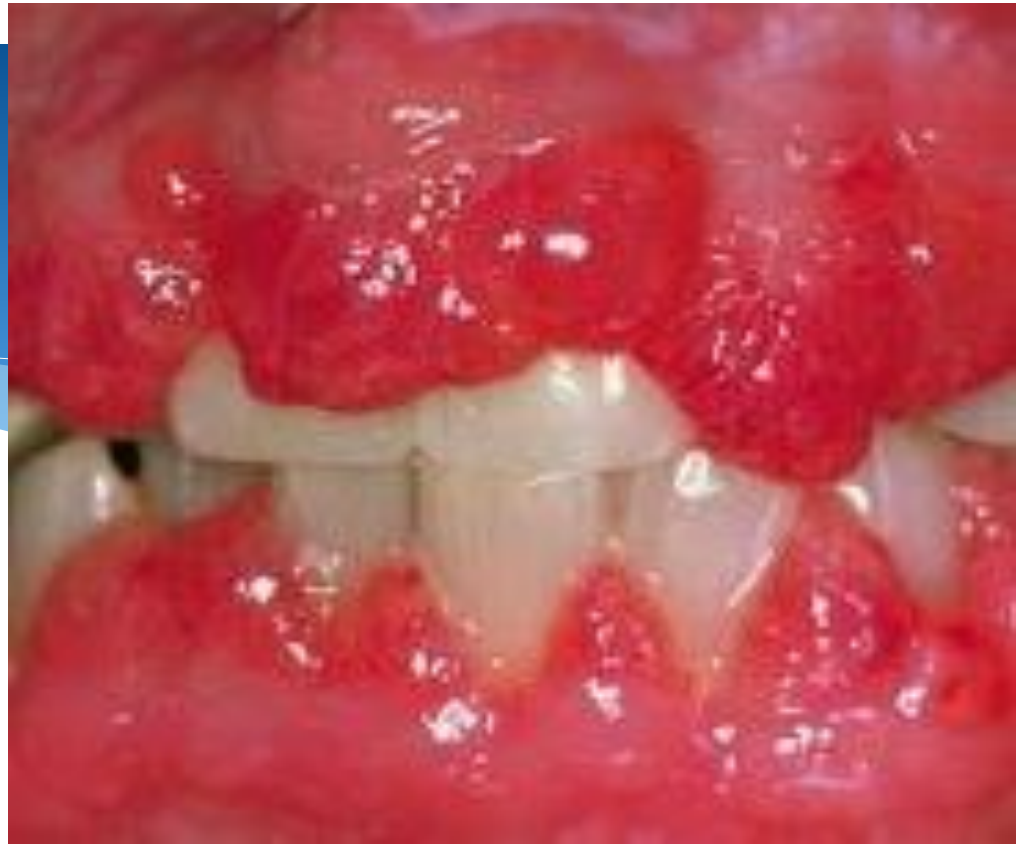
Epulis Fissuratum




Cheek
Tongue
Ridge
Epulis Fissuratum
E05151

Generalized gingival hyperplasia:

- Clinical features: Increase in the bulk of free and attached gingiva.
  - Stippling is lost
  - Color: red to blue
  - Associated inflammation: non-specific factors & hormonal imbalance appears more inflamed than drug induced hyperplasia
- Histopathology:
  - Abundance in collagen
  - Increased number of fibroblasts
  - Various degree of chronic inflammation
  - Increased capillaries (hormonal)
  - Immature & atypical white blood cells with leukemic type

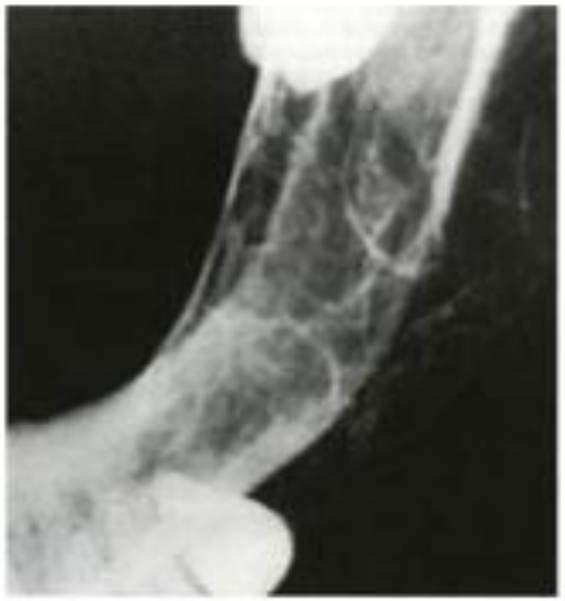


Generalized gingival hyperplasia:

- Treatment: Attentive oral hygiene is necessary
- Gingivoplasty or gingivectomy in combination with prophylaxis

Myxoma

- Neoplasms:
  - Myxoma: Benign proliferation of spindle cells
    - Clinical features: It is a soft neoplasms composed of gelatinous material
      - Slow growing
      - Asymptomatic
      - Location: Palate
      - Occurs at any age



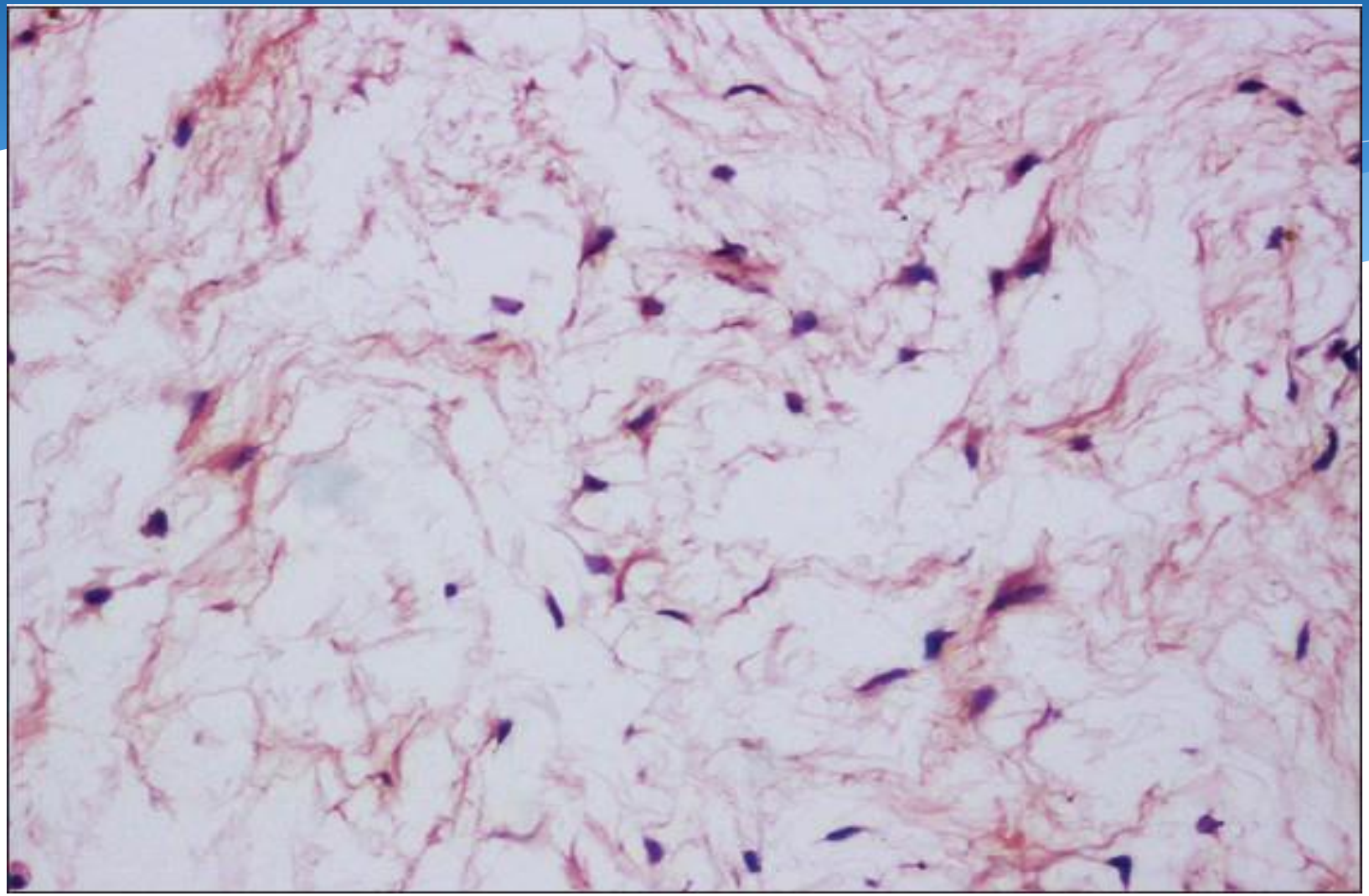
Soap bubble multilocular area

Myxoma:

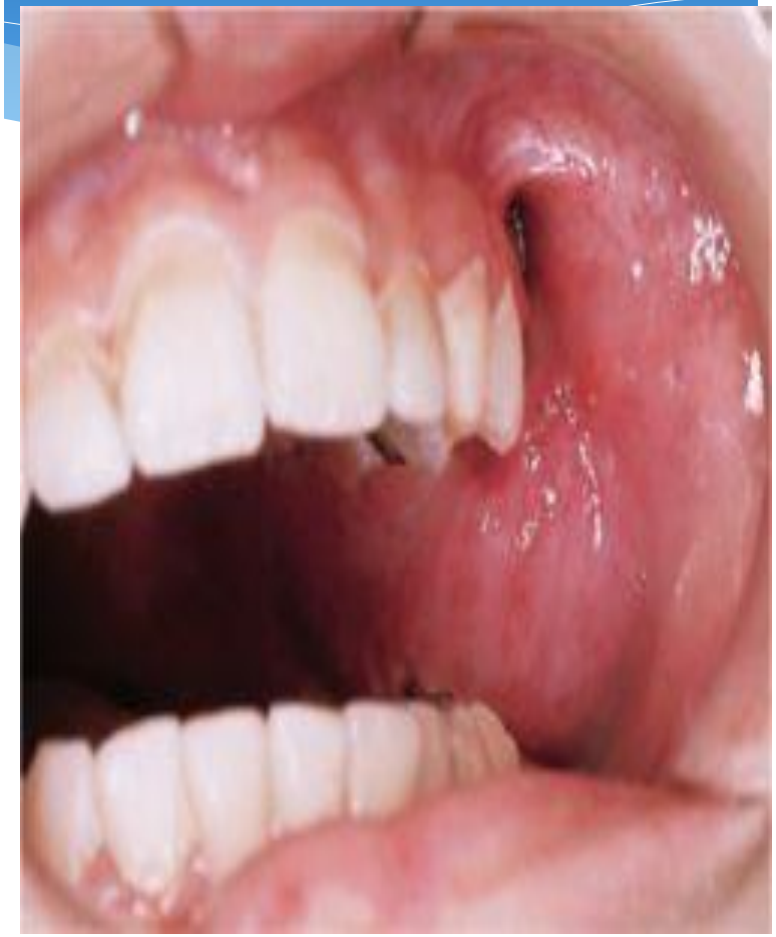
- Histopathology:
  - Not encapsulated (may exhibit infiltration into surrounding soft tissue)
  - Dispersed stellate & spindle-shaped fibroblasts
  - Loose myxoid stroma

Myxoma:

- Treatment: Surgical excision
- Recurrence is not uncommon

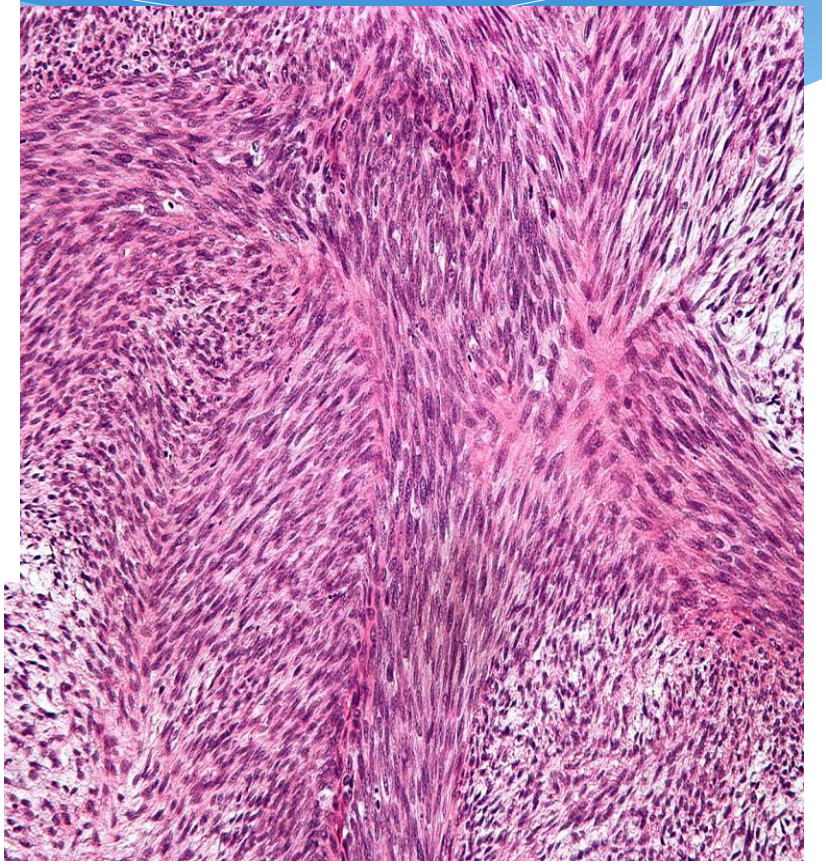


- Fibrosarcoma: It is a malignant spindle cell tumor showing interlacing fascicular pattern
  - Clinical features
    - Can arise in bone
    - Young adults most commonly affected
    - It is considered as infiltrative neoplasms



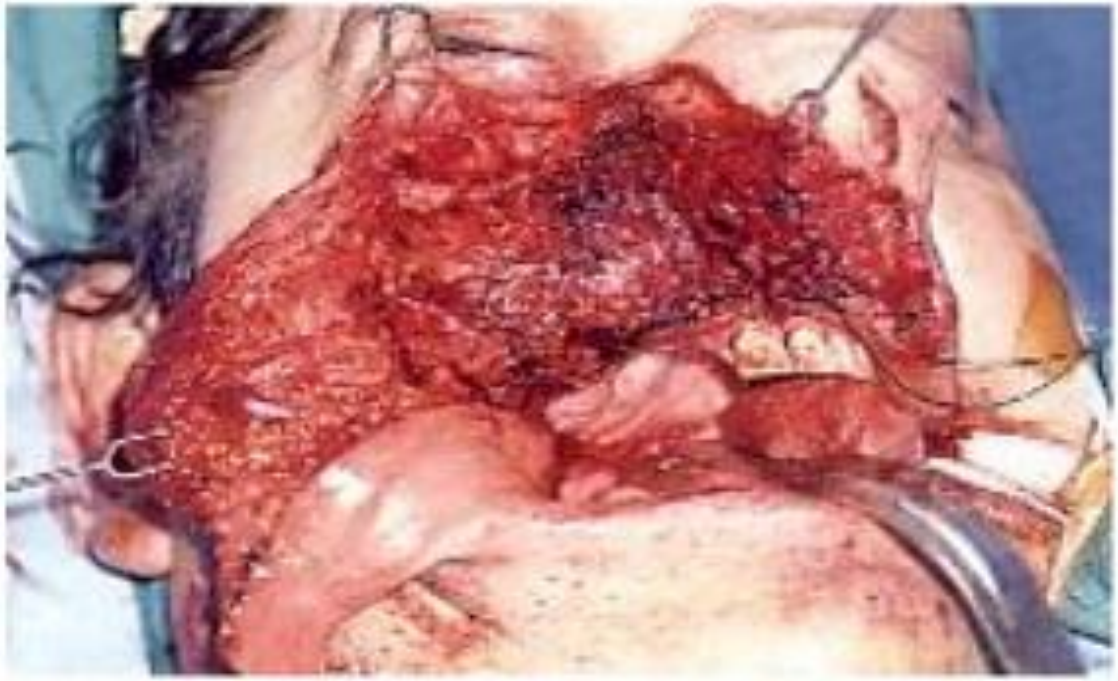
coma

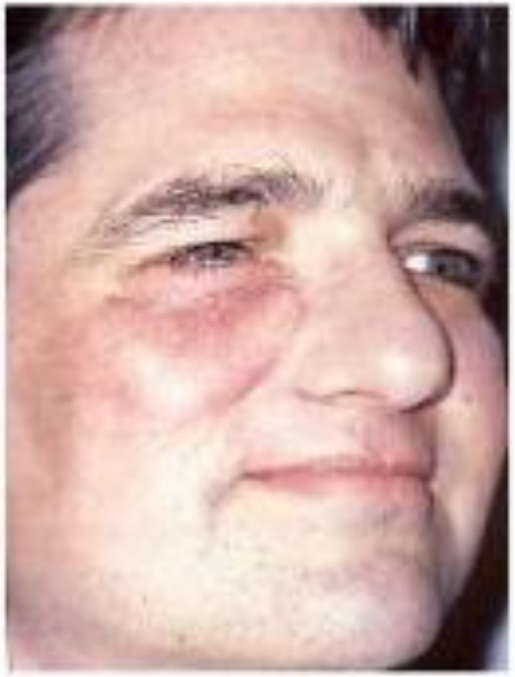
- Fibrosarcoma:
  - Histopathology:
    - Collagen sparse
    - Frequent mitotic figures
    - Ill defined periphery



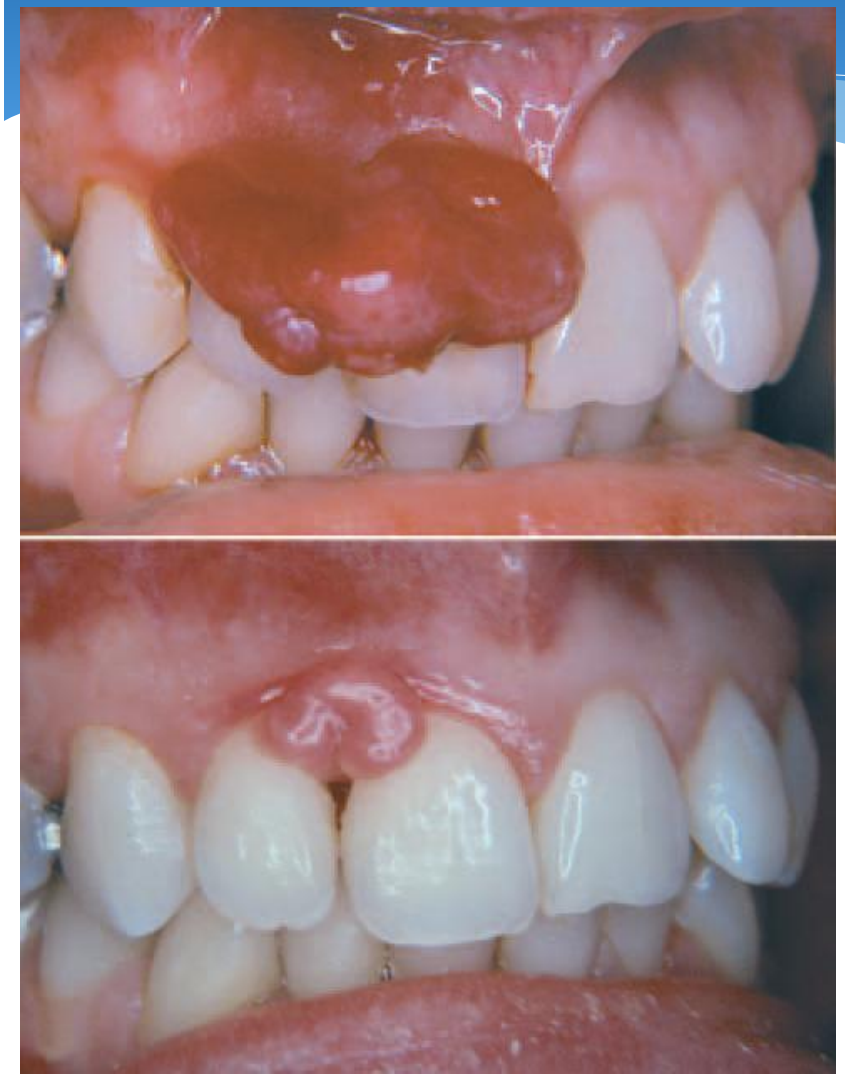
Treatment of Fibrosarcoma

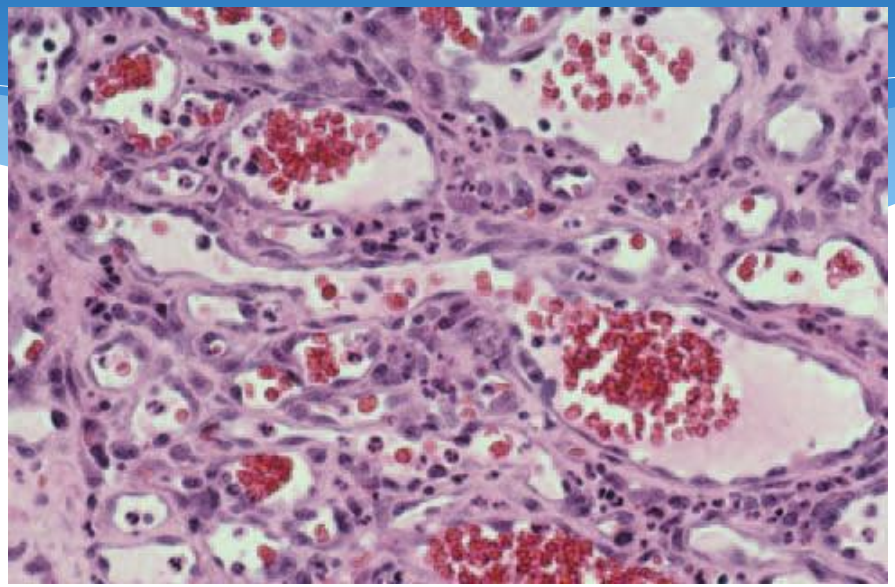
- **Wide surgical excision**
  - **Recurrence is not uncommon**
  - **Metastasis is infrequent**
  - **5 years survival rate is 30-50%**

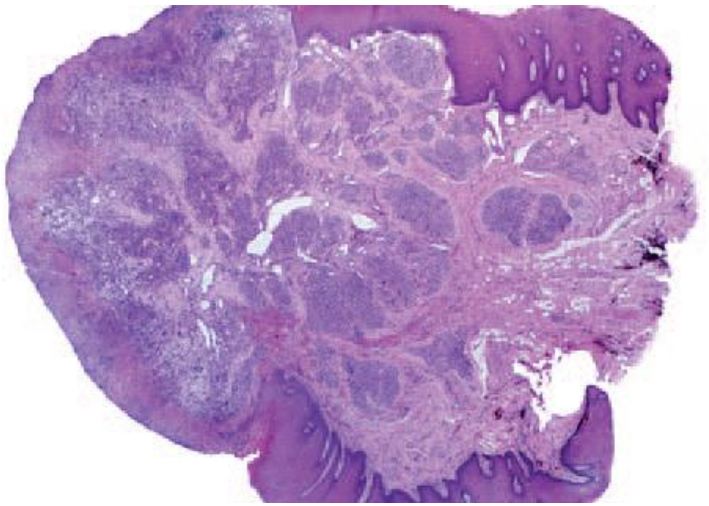




Pyogenic granuloma







GENDER

Females more susceptible than males.

Because of the hormonal changes during puberty, pregnancy, and menopause.

Also called a "pregnancy tumor“

Occur in 1% of pregnant women.

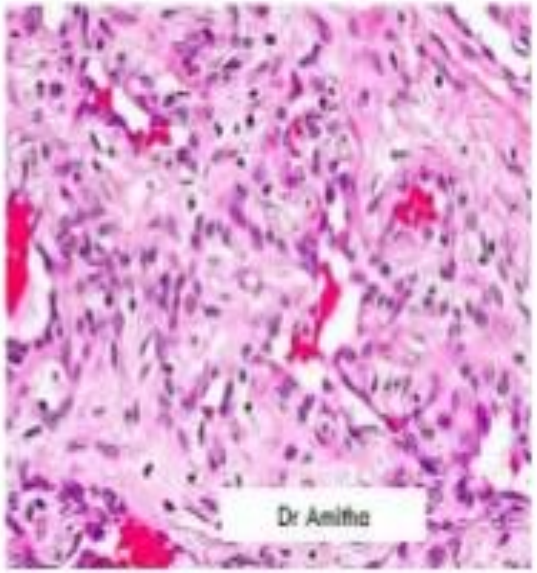
HISTOLOGY

Fibrous connective tissue

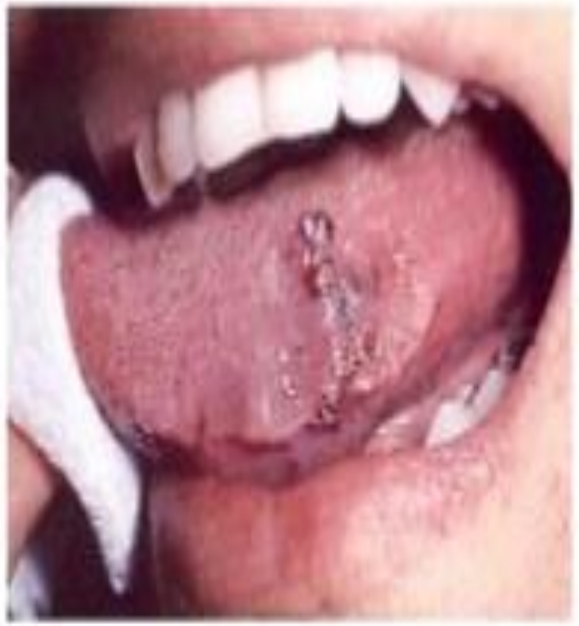
Proliferation of vascular channels.

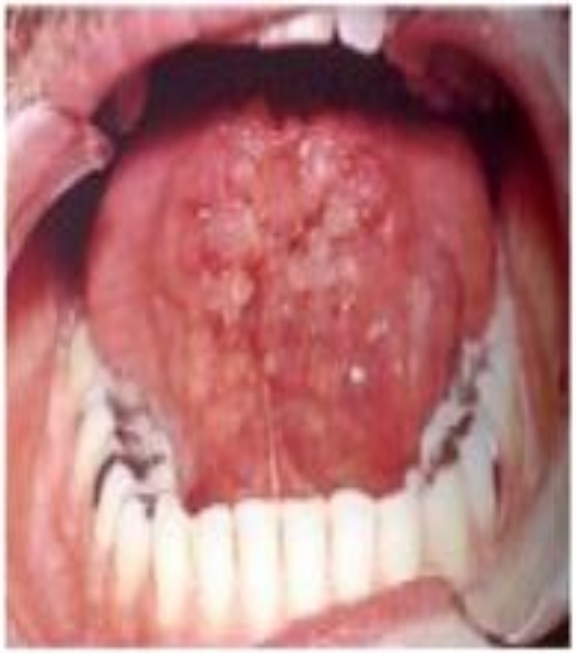
Few collagen.

Inflammatory infiltrate (by plasma cells, lymphocytes and neutrophils)

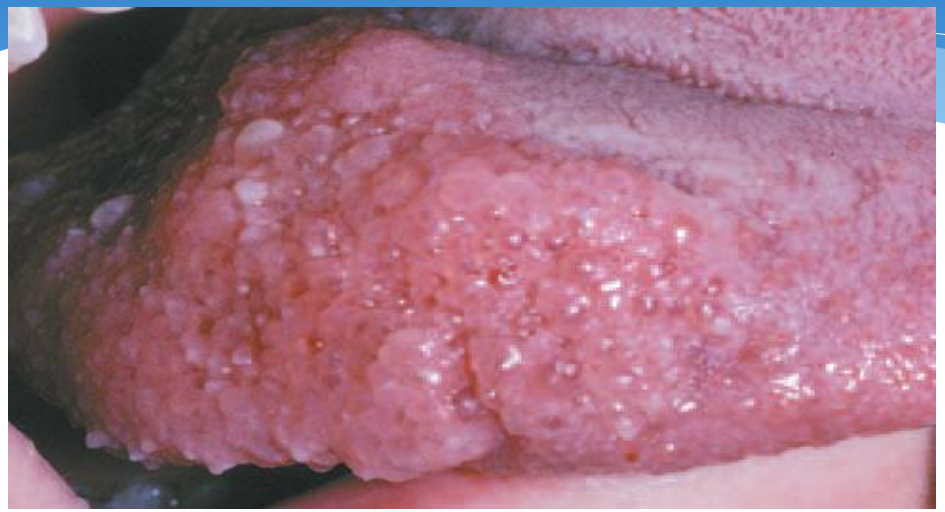


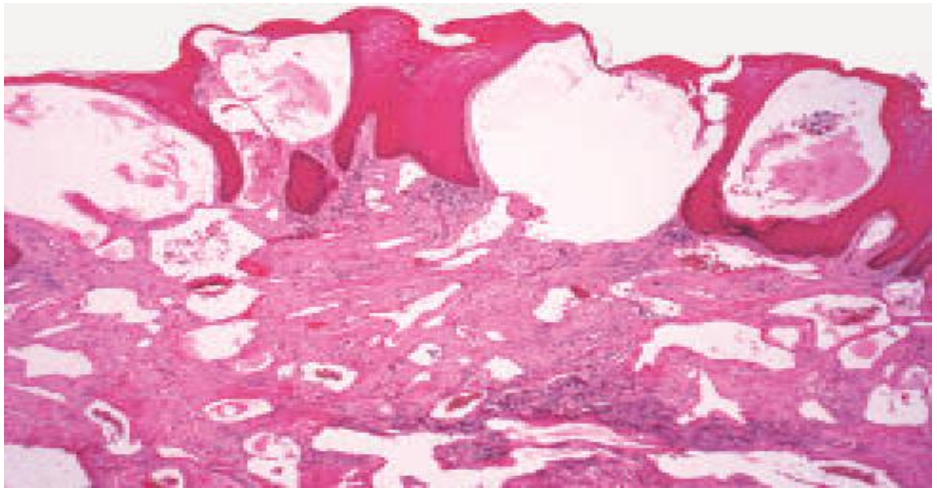
- Reactive & Congenital Lesions
- Lymphangioma
  - Etiology:
    - It is regarded as congenital lesion
    - Appears within the first 2 decades of life
  - Clinical features:
    - Painless nodular, vesicle like swelling
    - Crepitant sound
    - Tongue is the most common intraoral site

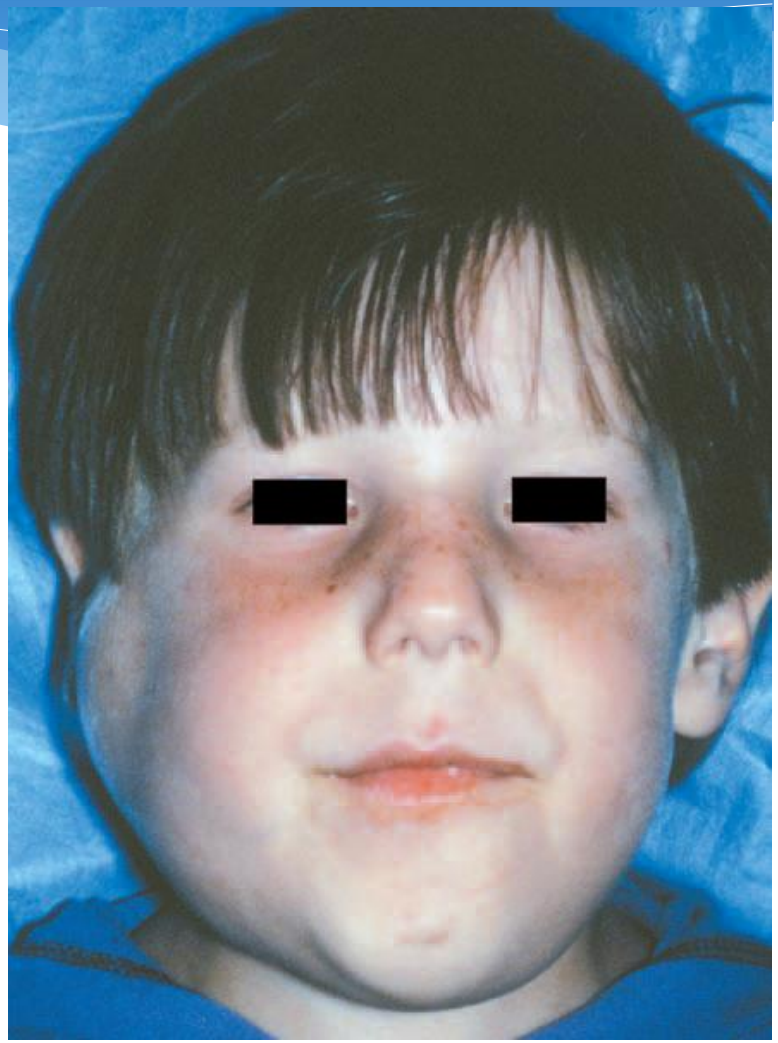




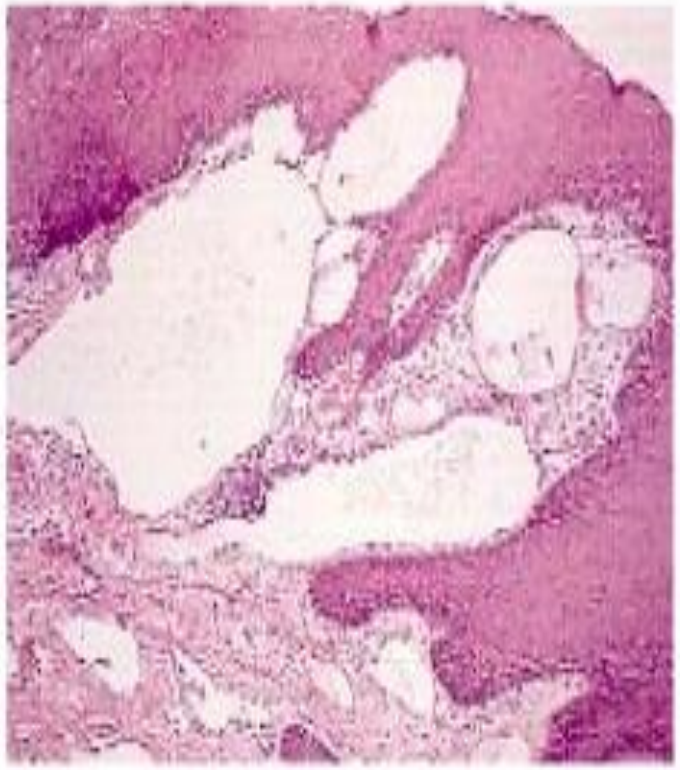
LYMPHANGIOMA





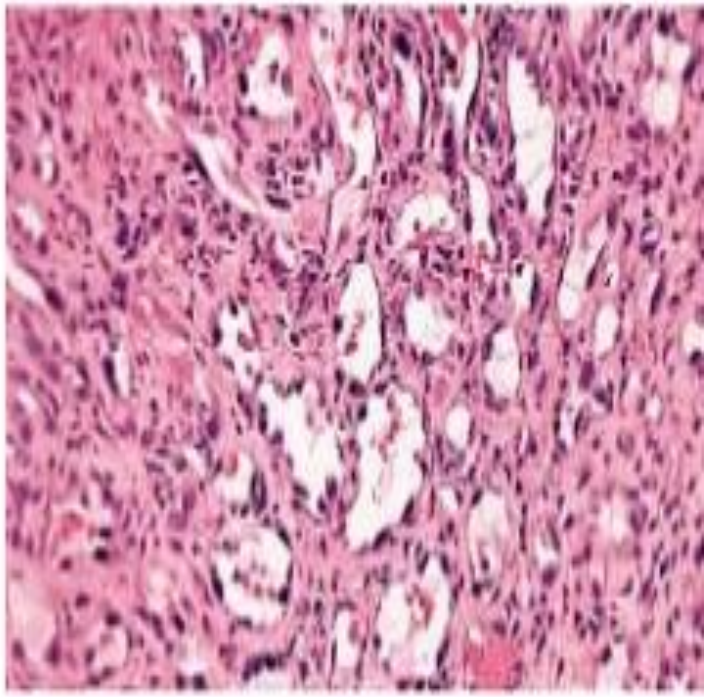


- Histopathology:
  - Endothelium-lined lymphatic channels
  - Eosinophilic lymph that occasionally include red blood cells
  - Lymphatic channels directly adjacent to overlying epithelium

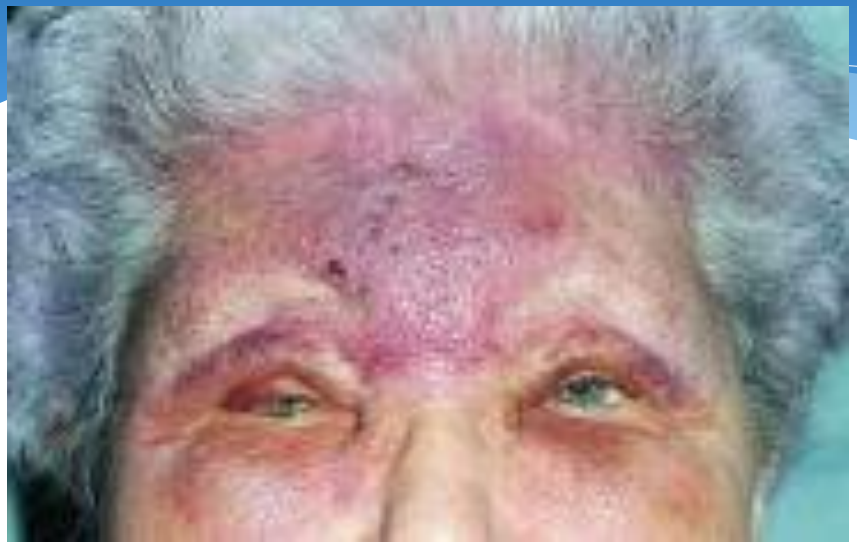


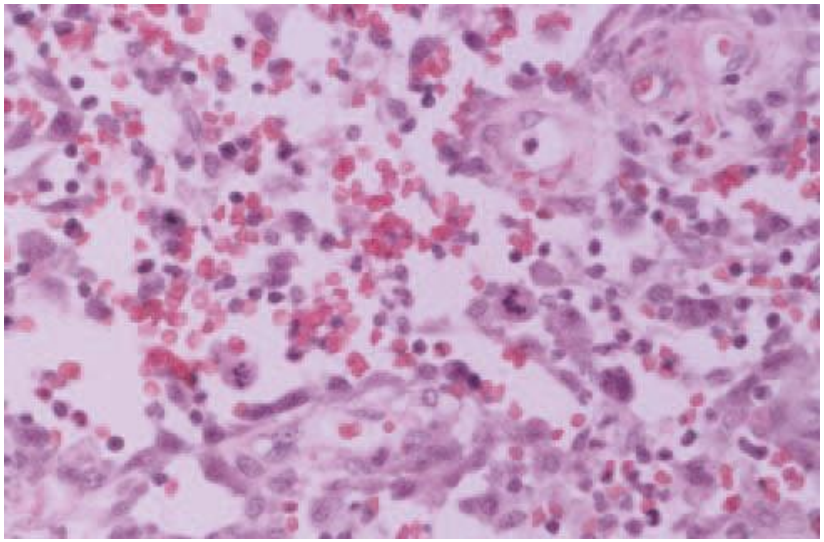
- Treatment: Surgical removal but because of lack of encapsulation, recurrences are common

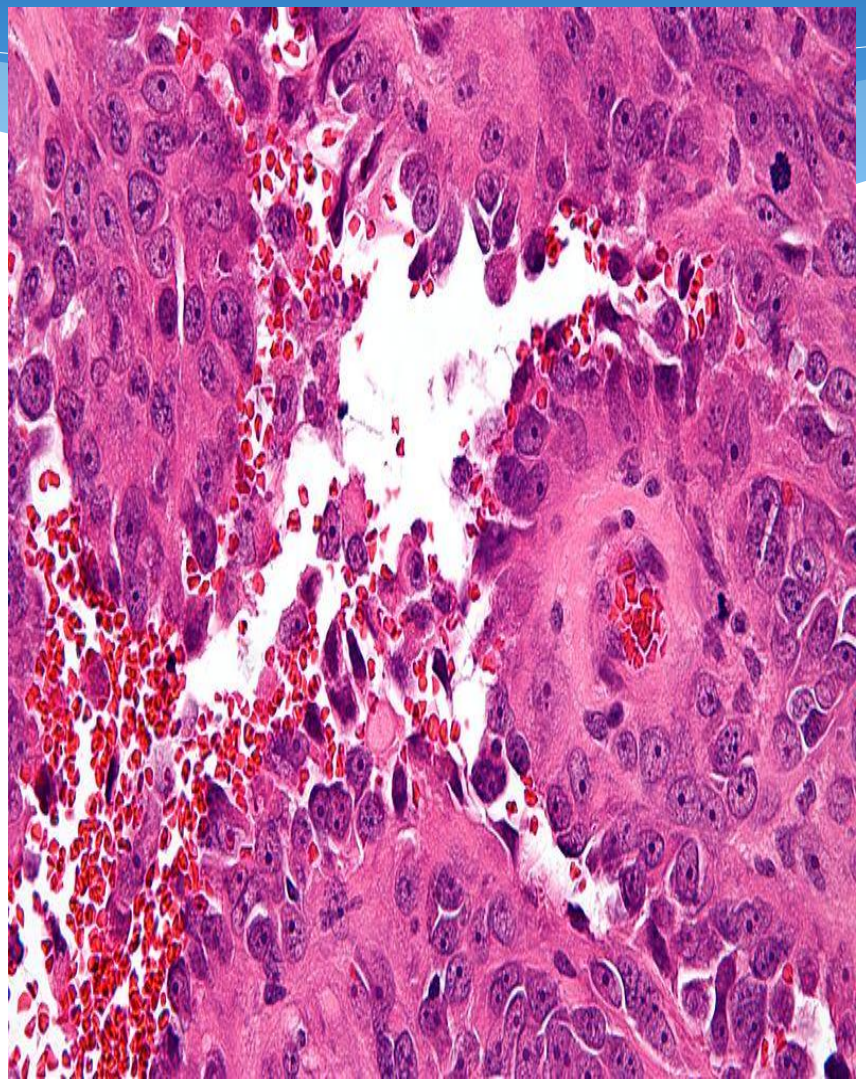
- Neoplasms:
- Angiosarcoma
  - It is a neoplasm of endothelial cell origin
  - Scalp is the usual location
  - The lesion consists of an unencapsulated proliferation of endothelial cells enclosing irregular luminal spaces
  - It has an aggressive clinical course and poor prognosis



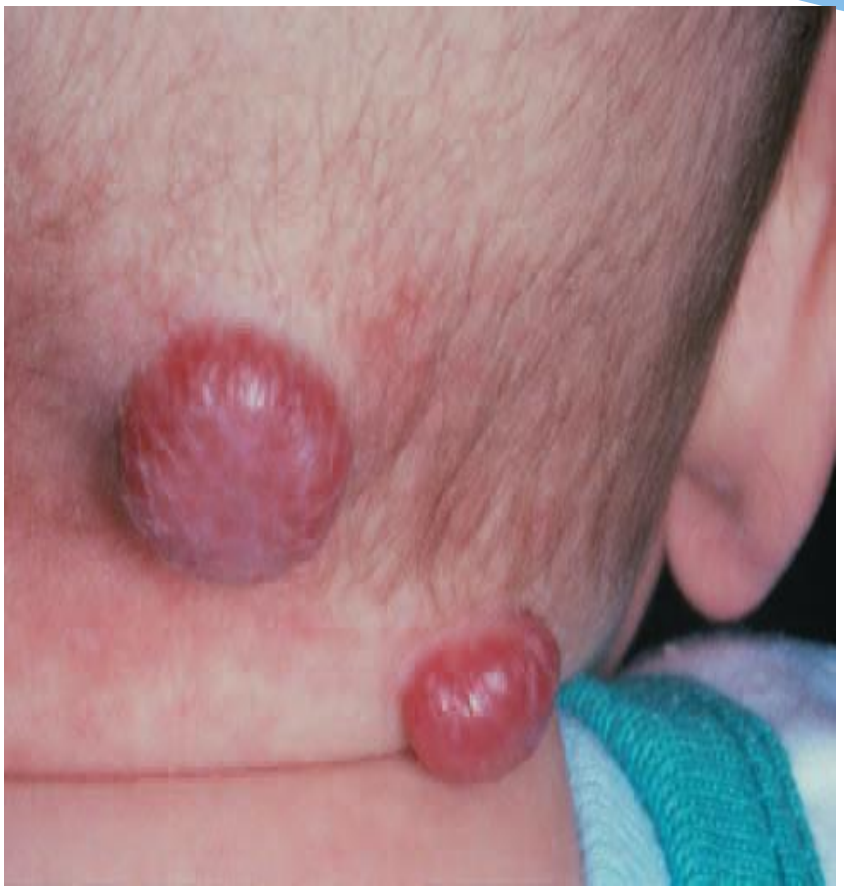
Angiosarcoma

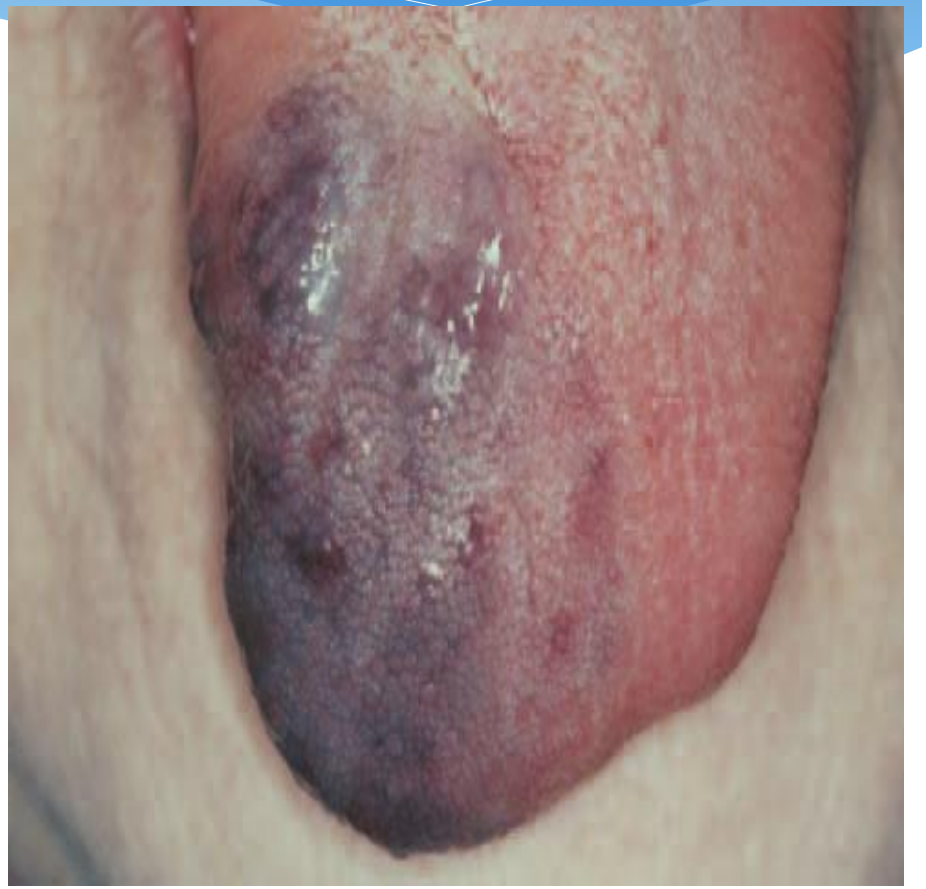


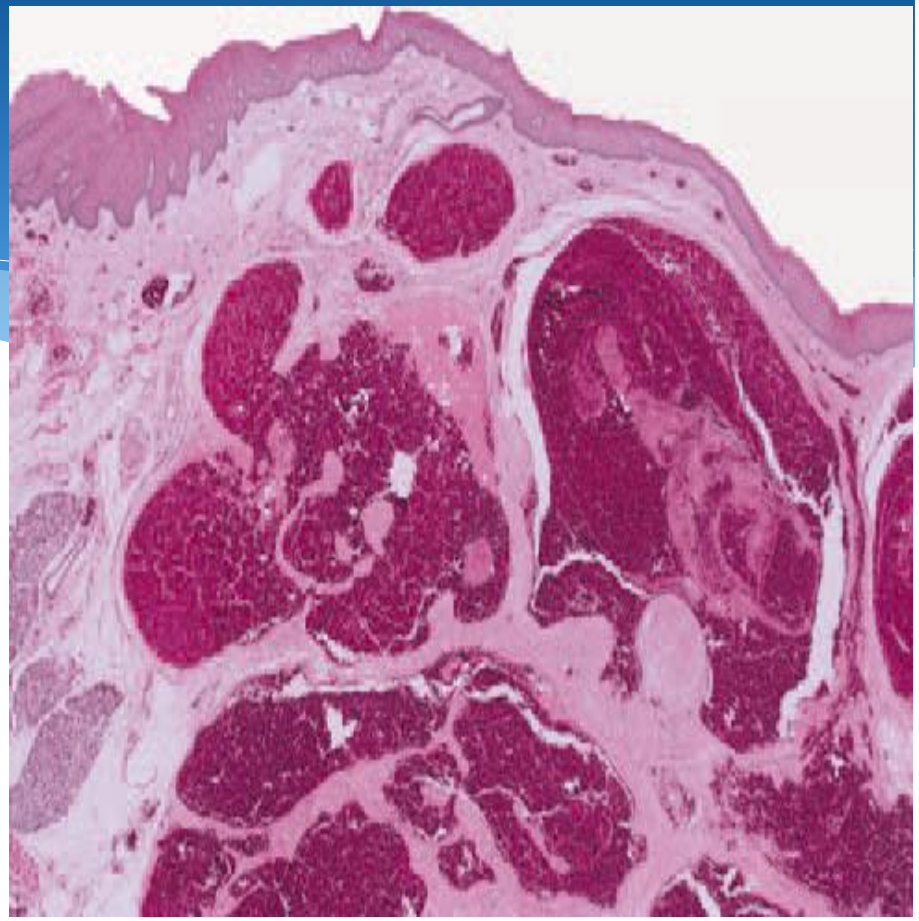


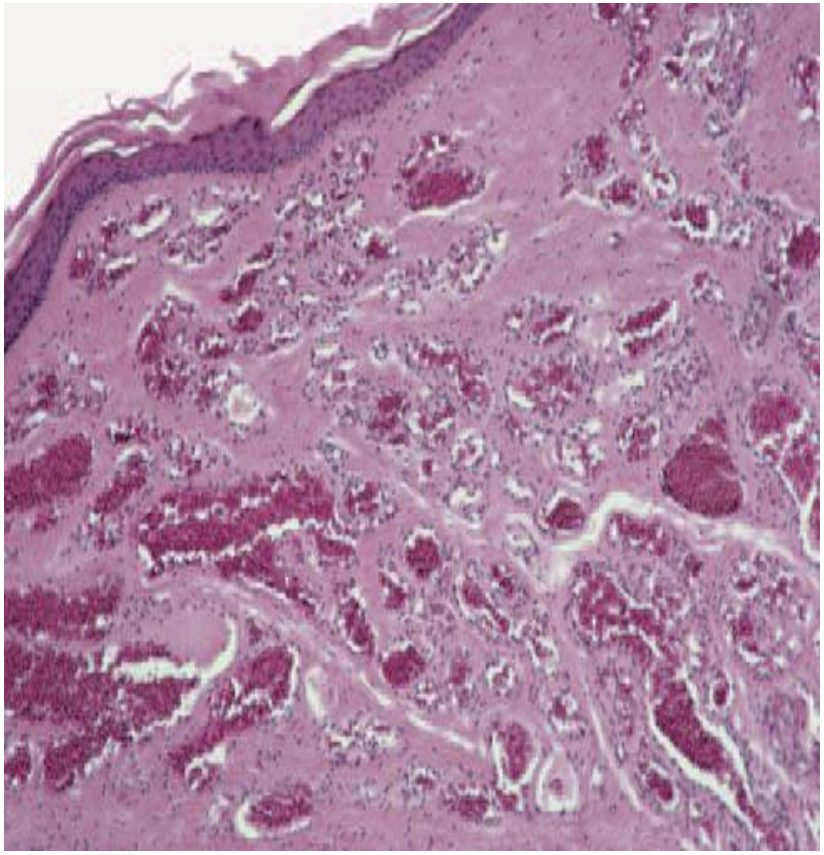


Congenital hemangioma
&
Vascular malformation

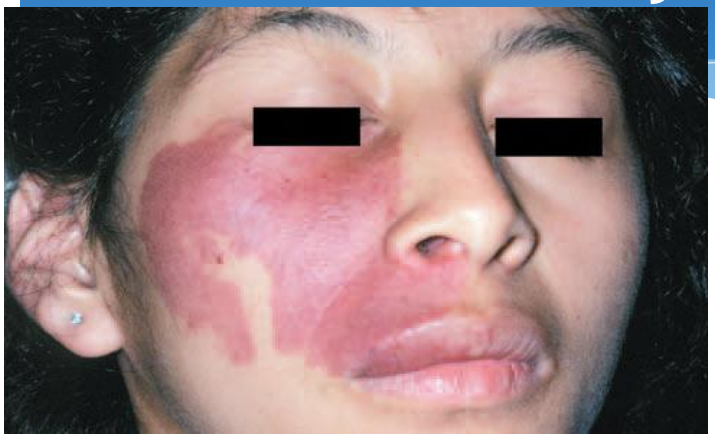


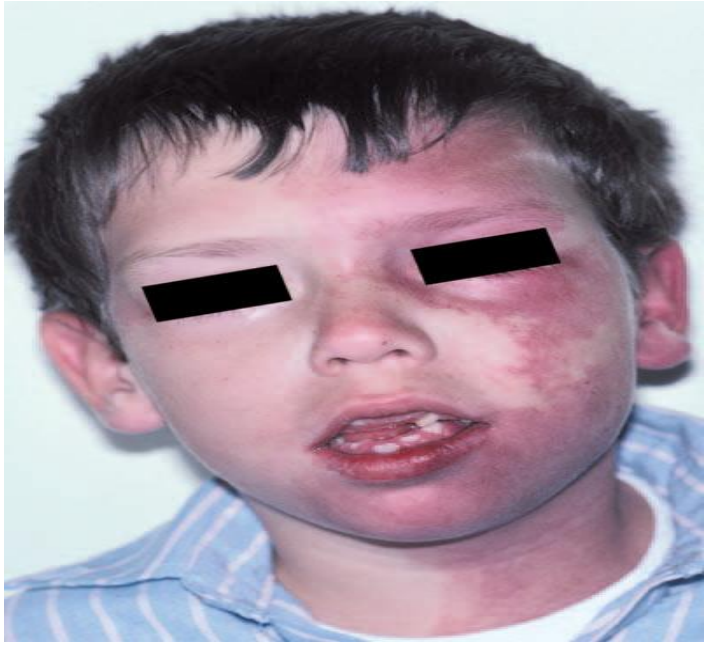






Sturge-Weber angiomatosis Sturge-Weber syndrome (SWS).

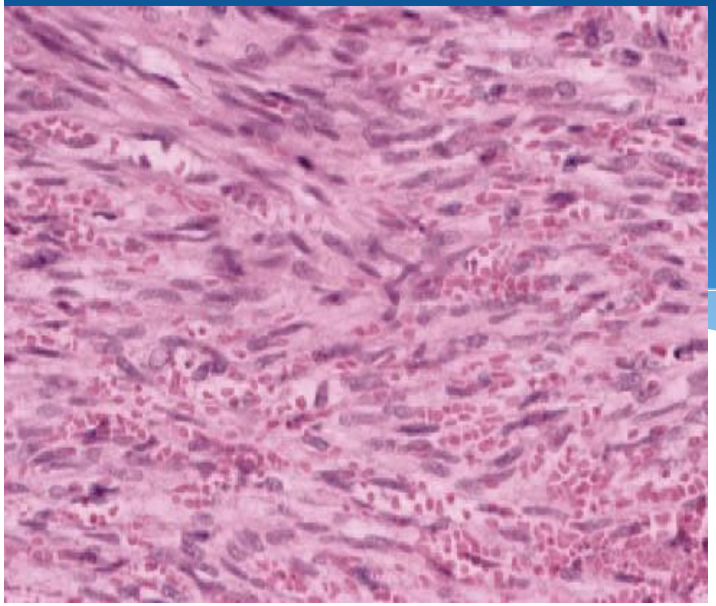


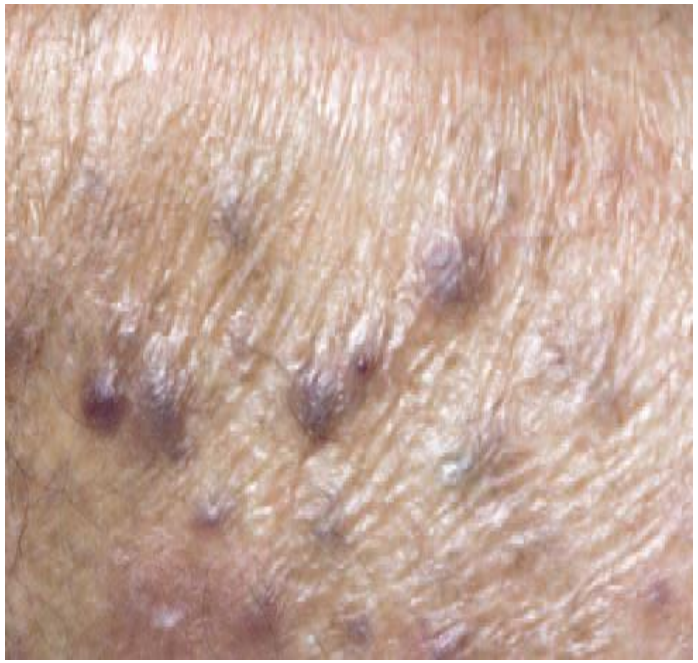


* is a congenital syndrome characterized by a classic triad of facial capillary malformation [port-wine stain (PWS)], intracranial vascular abnormalities (leptomeningeal angiomas), and glaucoma

Kaposi's sarcoma

* It`s originates from endothelial cells line BV and lymphatic vessels
* There are four main types of Kaposi sarcoma:
* Classic KS: occurs mainly in old patient , It is more common in males than females.
* Epidemic KS: This is the most common form of KS known as African Kaposi sarcoma
* Iatrogenic KS: This is also known as immunosuppressive treatment-related Kaposi sarcoma, immunosuppressive Kaposi sarcoma, or transplant-related Kaposi sarcoma.
* Kaposi sarcoma is an illness in people infected with AIDS stage 3 HIV

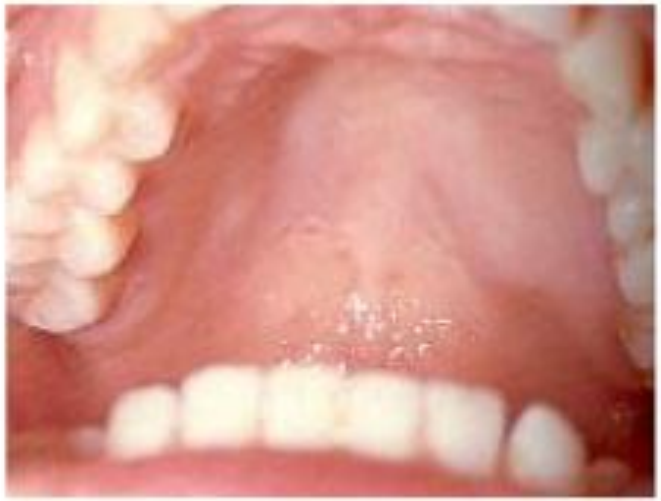




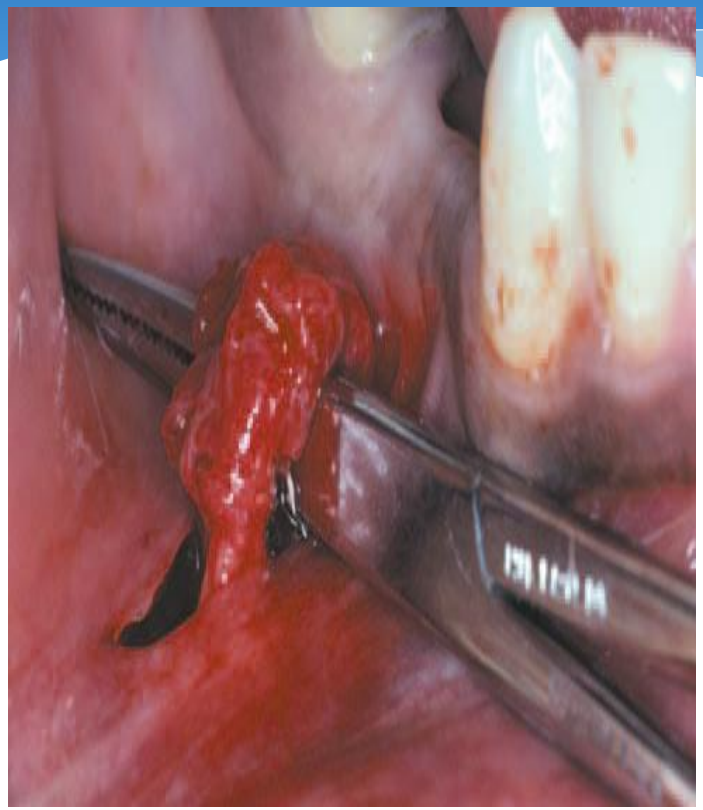
* Histologically mitosis are common but pleomorphism are minimal

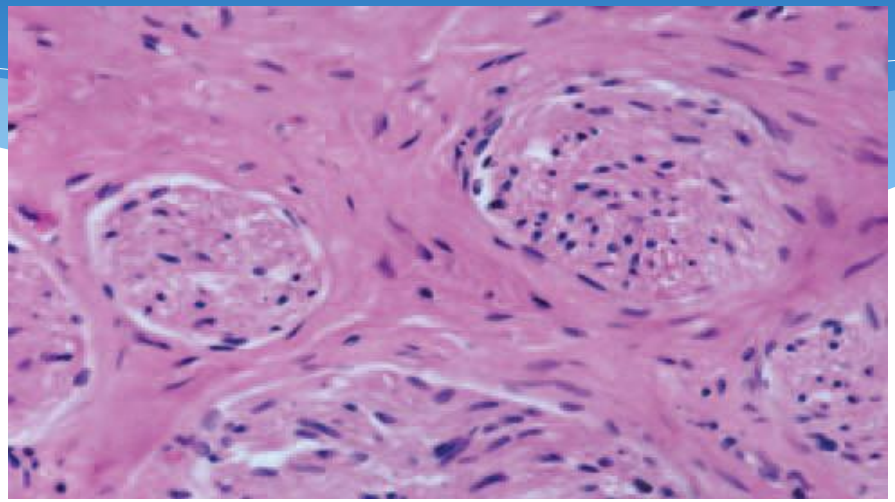
Neural lesions

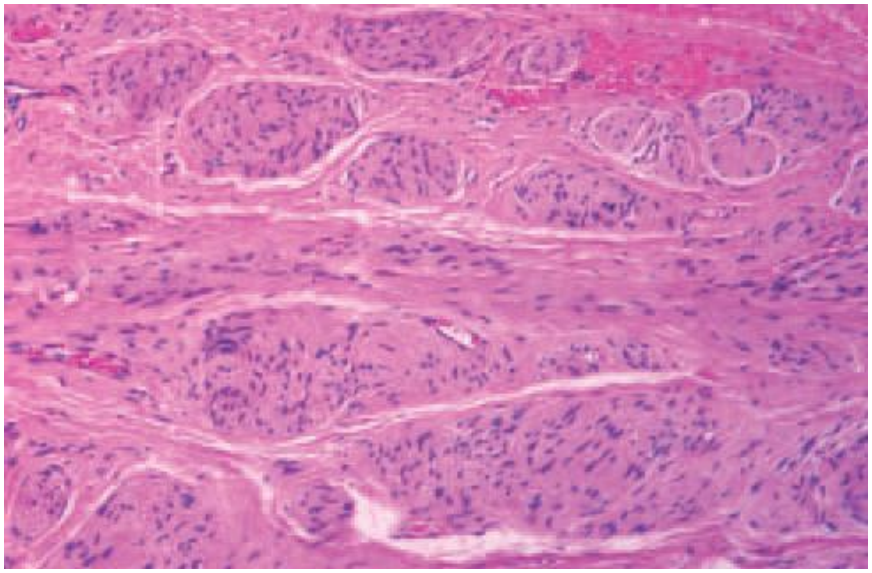
- Reactive lesion:
- Traumatic neuroma:
  - Etiology: It is caused by injury of peripheral nerve
    - Oral surgery procedure
    - Local anesthetic injection
    - Accident
  - Clinical features:
    - Pain
    - Wide age range
    - Mental foramen is the most common location



traumatic neuroma

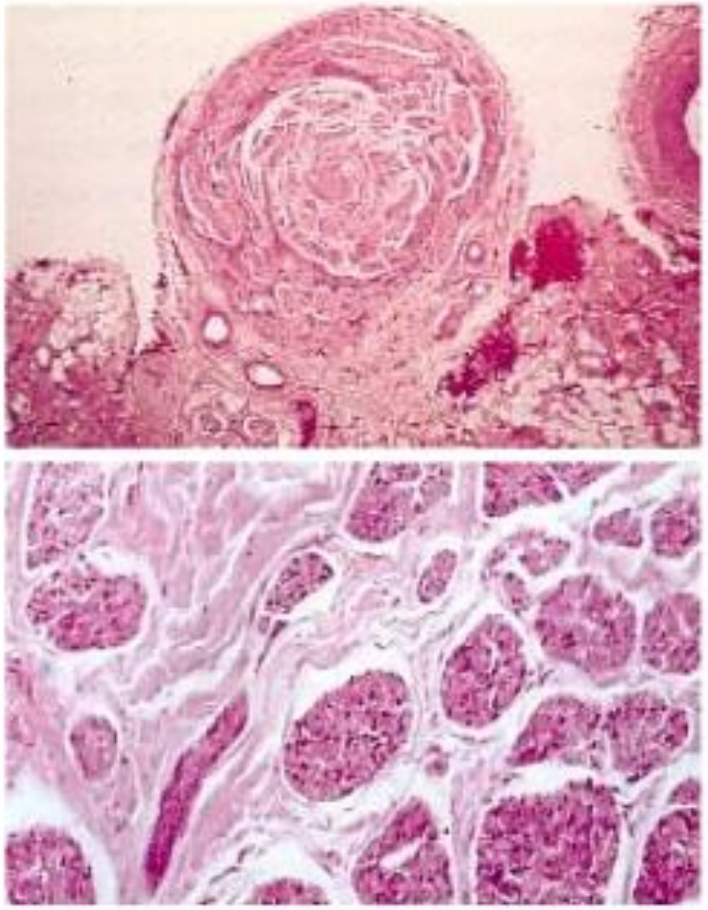






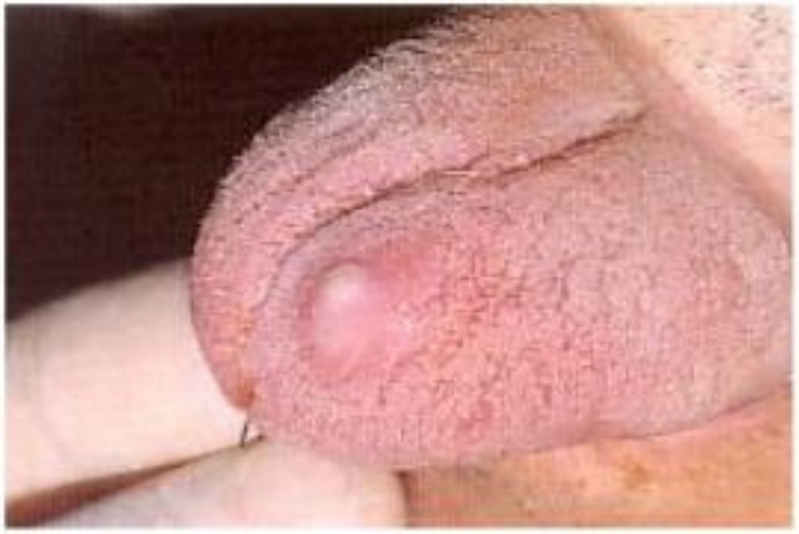
Neural lesion

- Traumatic neuroma (Cont.)
  - Histopathology:
    - Bundles of nerves admixed with dense collagenous fibrous tissue
  - Treatment: Surgical excision

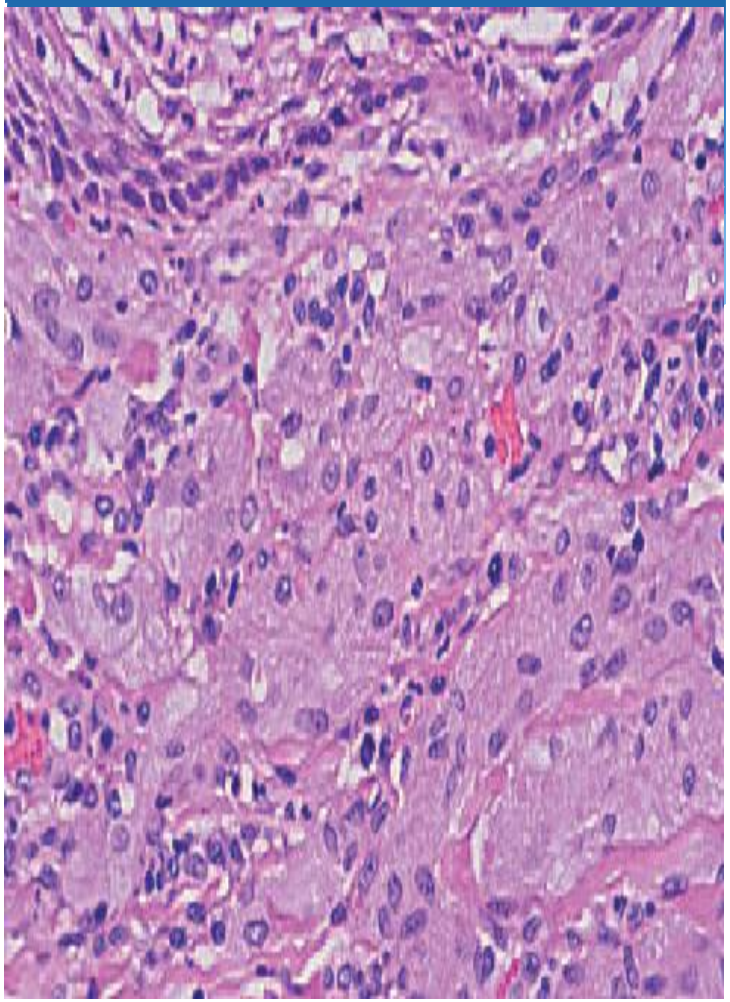


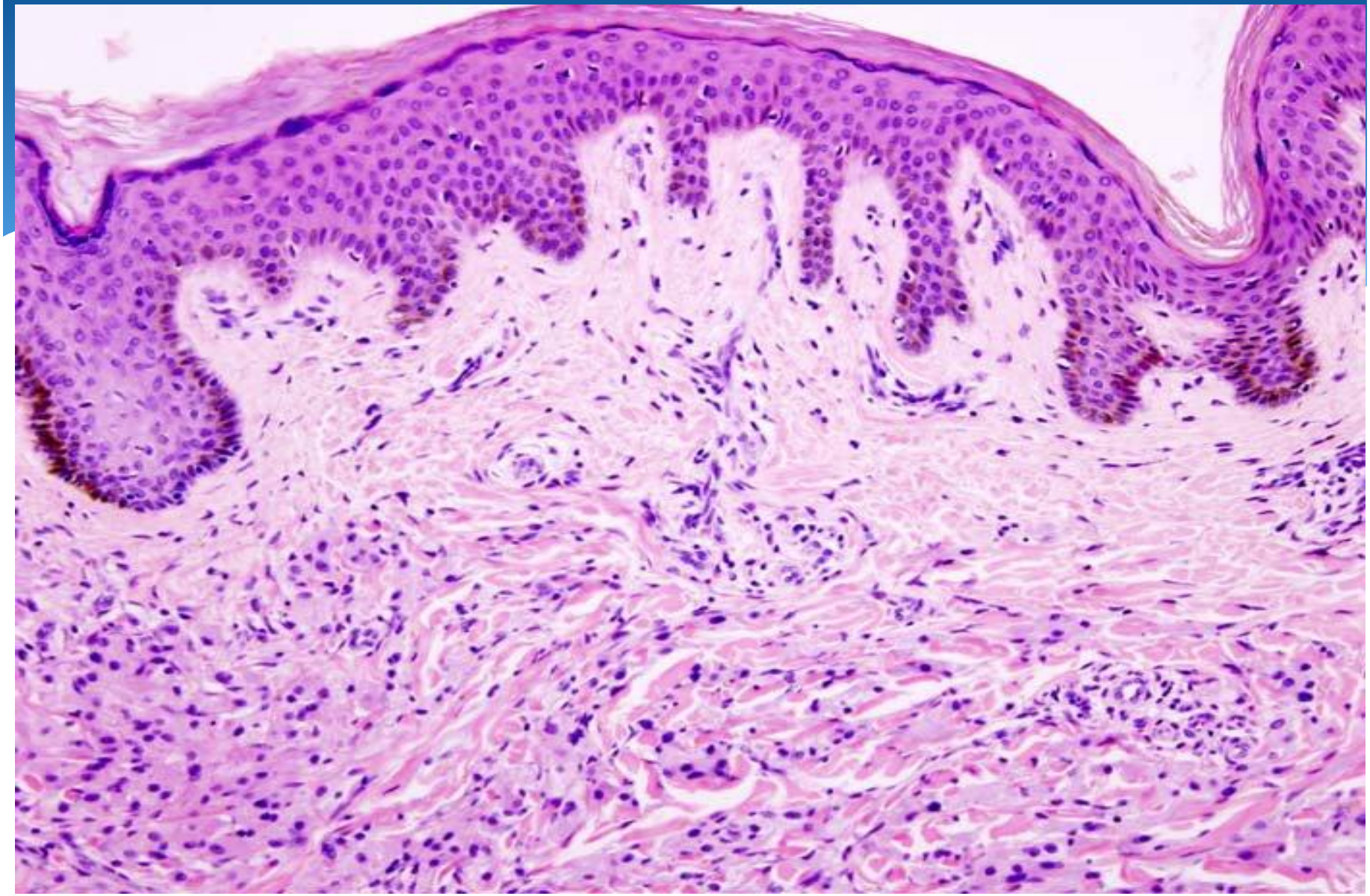
Neural Lesion

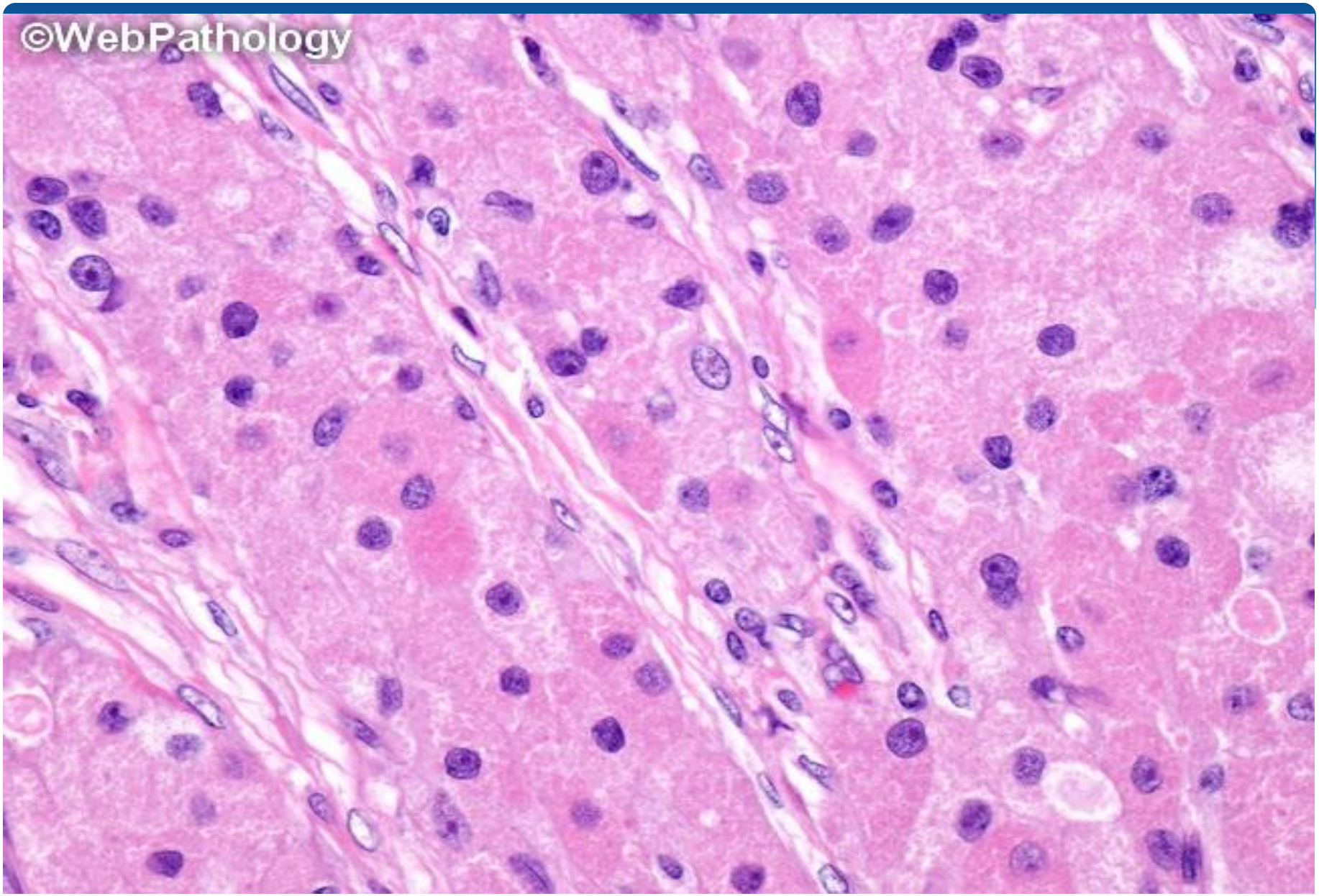
- Neoplasms:
- Granular cell tumors
  - Etiology: It is an uncommon benign tumor of unknown cause
  - The granular cell that make this tumor is believed to originate from Schwann cells
- Clinical features:
  - Wide age range
  - Tongue is the most common location
  - Uninflamed asymptomatic mass
  - < 2 cm in diameter
  - Overlying epithelium is intact

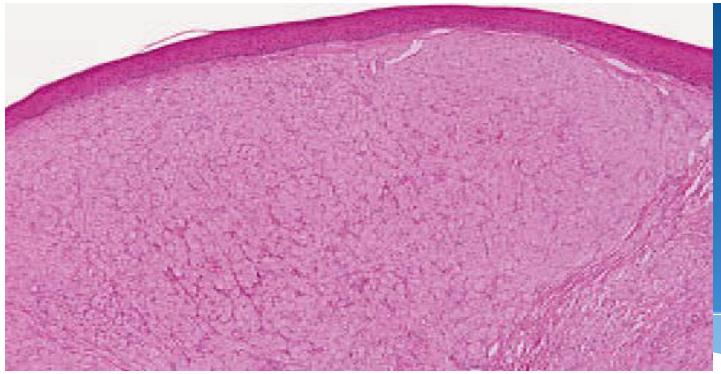


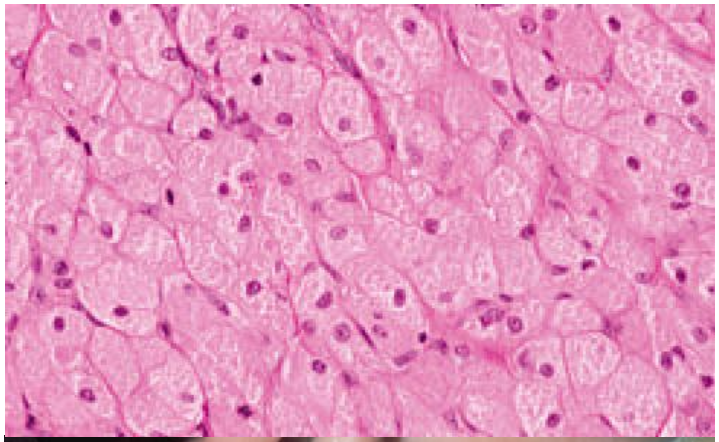
- Neoplasms:
- Granular cell tumors
  - Histopathologically:
    - Unencapsulated sheets of
    - large polygonal cells with pale granular or grainy cytoplasm
    - Pseudoepitheliomatous hyperplasia
  - Treatment: Surgical removal

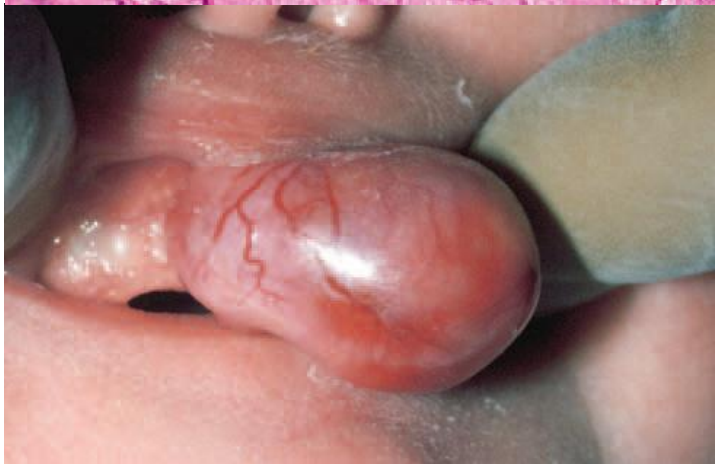





©WebPathology





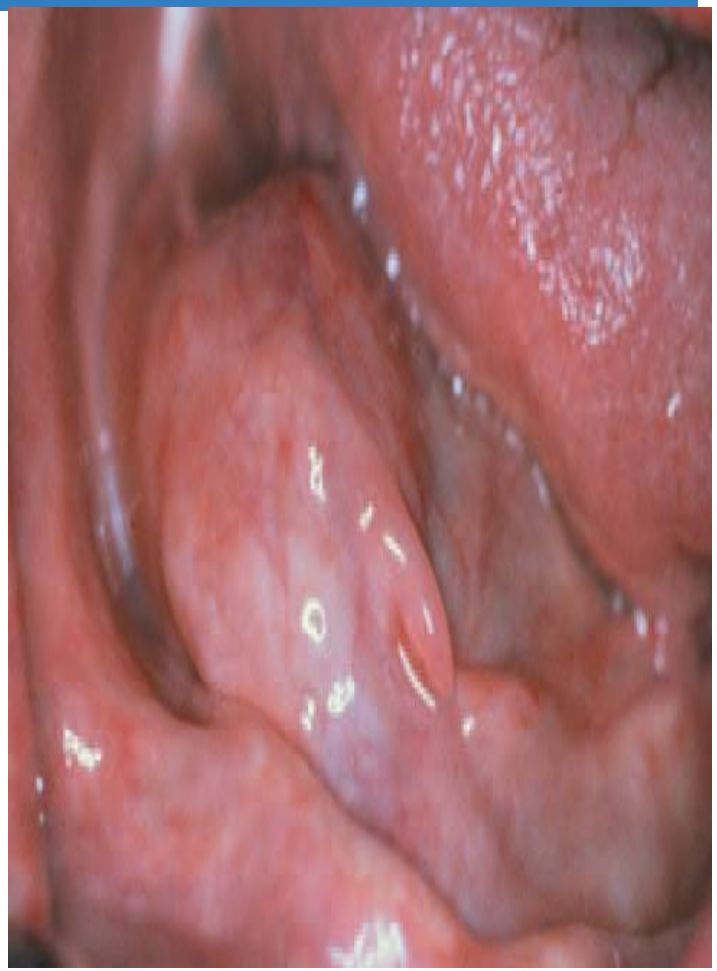


congenital epulis

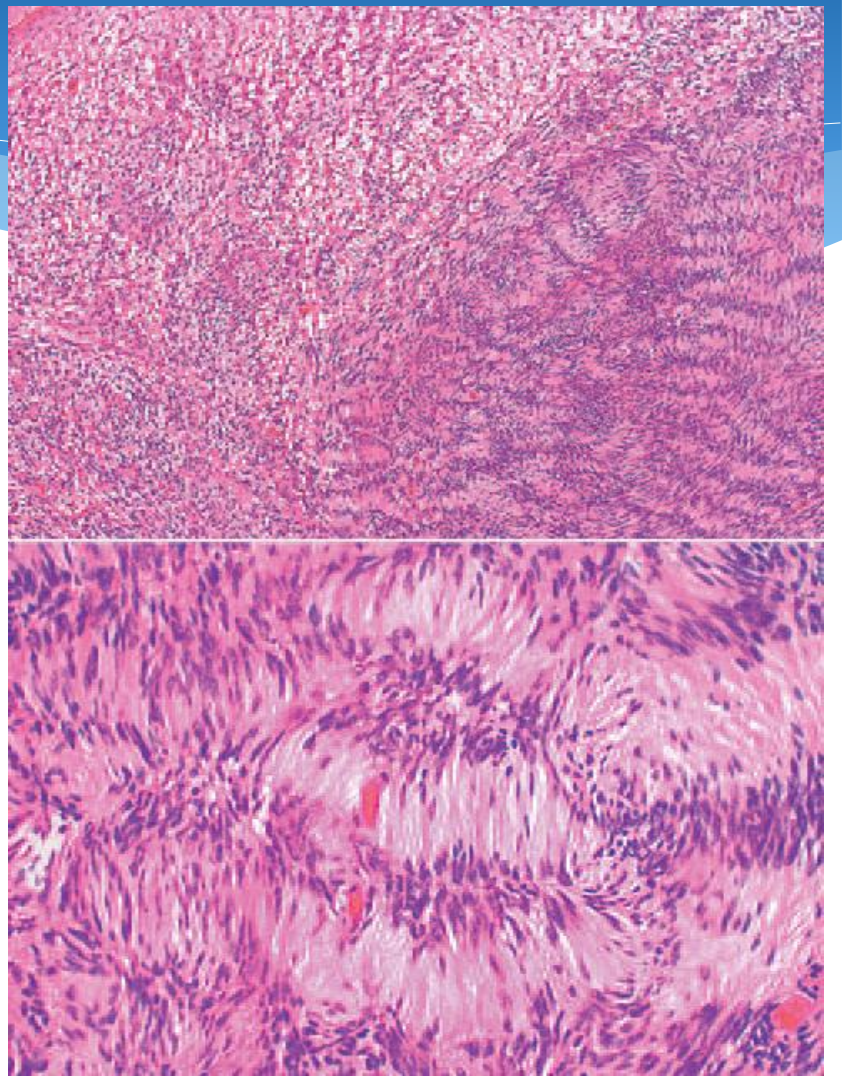
* Congenital granular cell epulis of unknown histogenesis with a strong predilection for the maxillary alveolar ridge of newborn.

NEURILEMOMA (SCHWANNOMA)

- Etiology: It is derived from schwann cells
- Clinical features:
  - It is an encapsulated submucosal mass
  - Asymptomatic lump
  - Occurs at any age
  - Tongue is the most common location
  - Bony lesion produce a well-defined radiolucent lesion
  - Slow growing but may undergoe a sudden increase (hemorrhage)

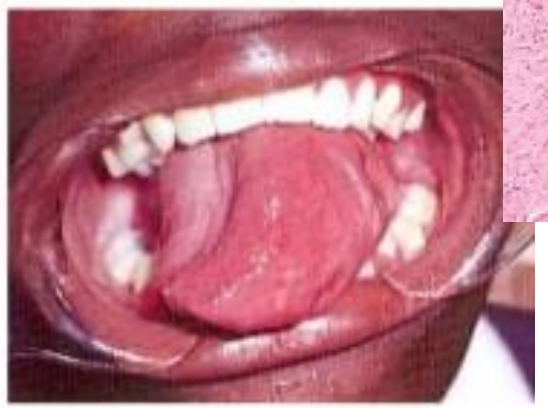


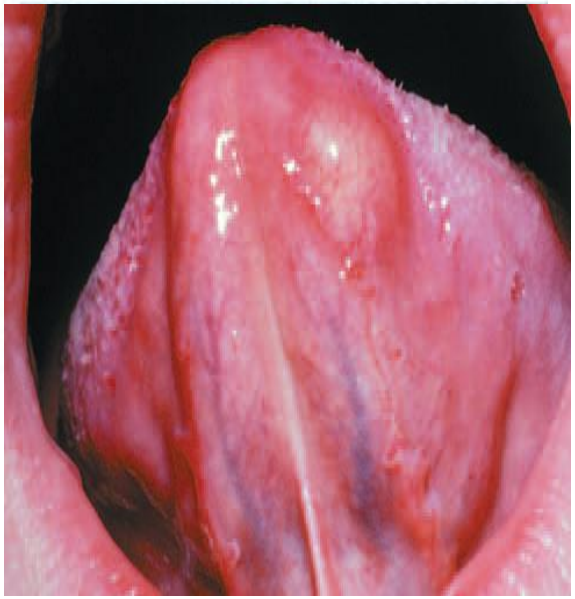
- Neoplasms:
- Schwannoma:
  - Histopathology:
    - Spindle cells either organized (palisaded waves) or haphazardly distributed
  - Treatment: Surgical excision



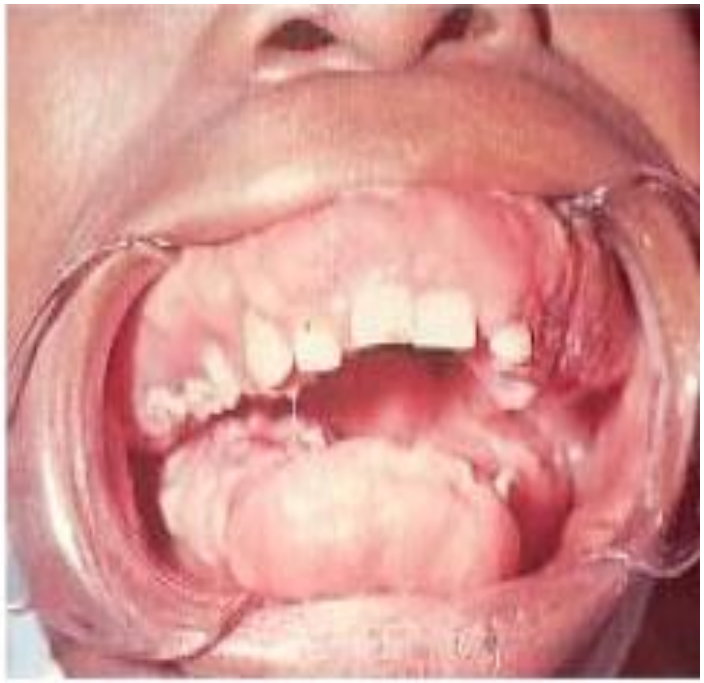
Neural lesion

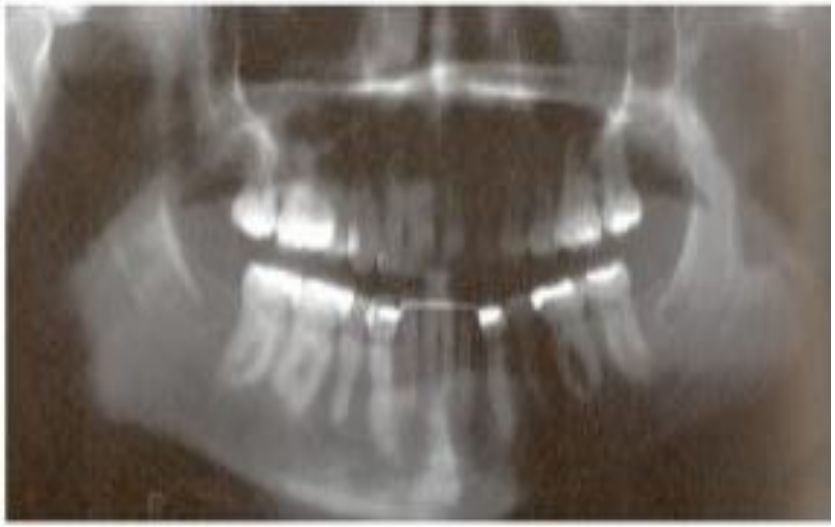
- Neoplasms:
- Neurofibroma:
  - It mat appear as solitary or multiple lesions
  - Etiology: - Solitary type is unknown
    - Neurofibromatosis is inherited
  - Clinical features: Solitary type
    - Uniflamed asymptomatic submucosal mass
    - Location: Tongue, vestibule & buccal mucosa



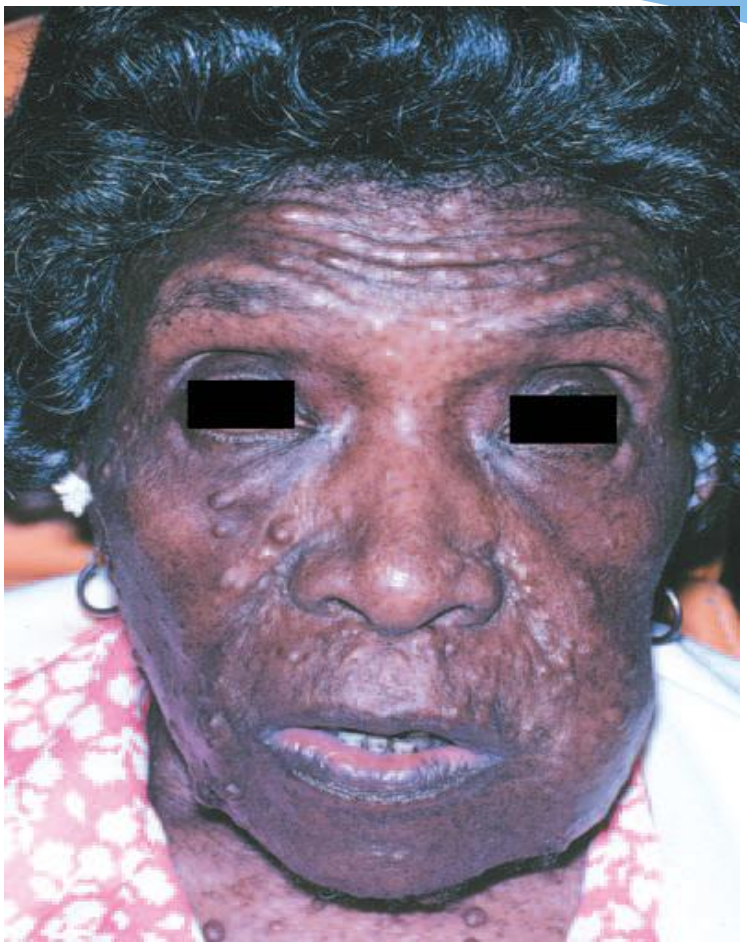


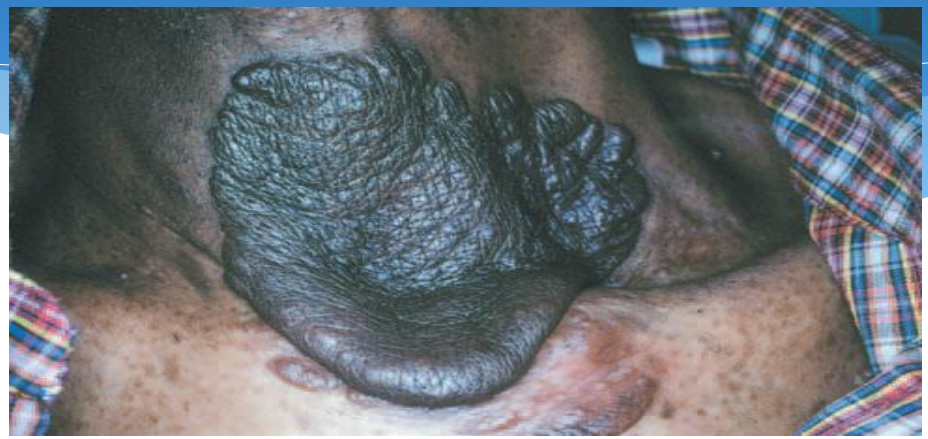
- Neurofibroma:
  - Clinical features: Neurofibromatosis:
    - Multiple
    - Café-au-lait macules
    - Bone abnormalities (cortical erosion or medullary resorption)
    - Central nervous system changes
    - Pain or parasthesia may be seen
    - Malignant degeneration into neurogenic sarcoma is seen in 5% to 15%

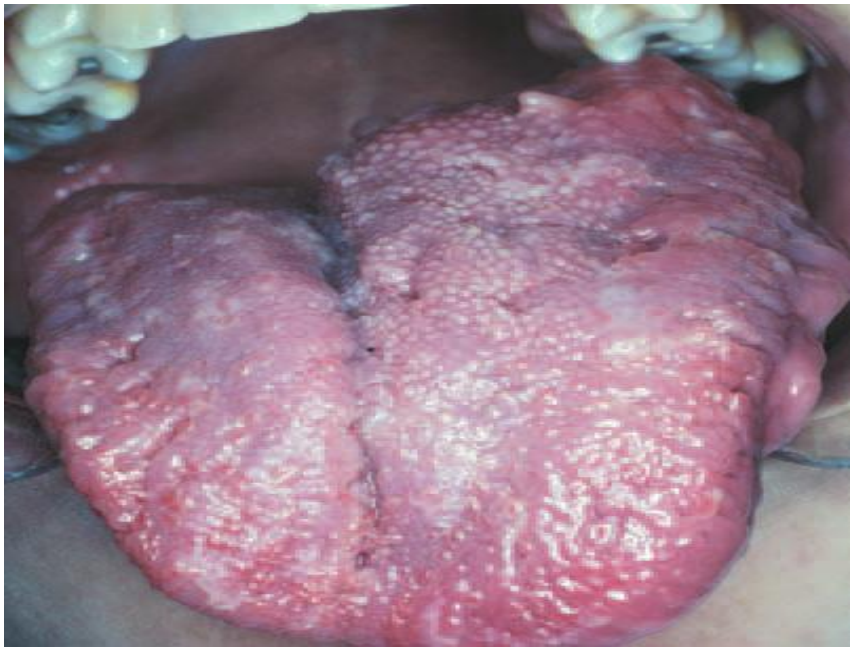




Neurofi bromatosis



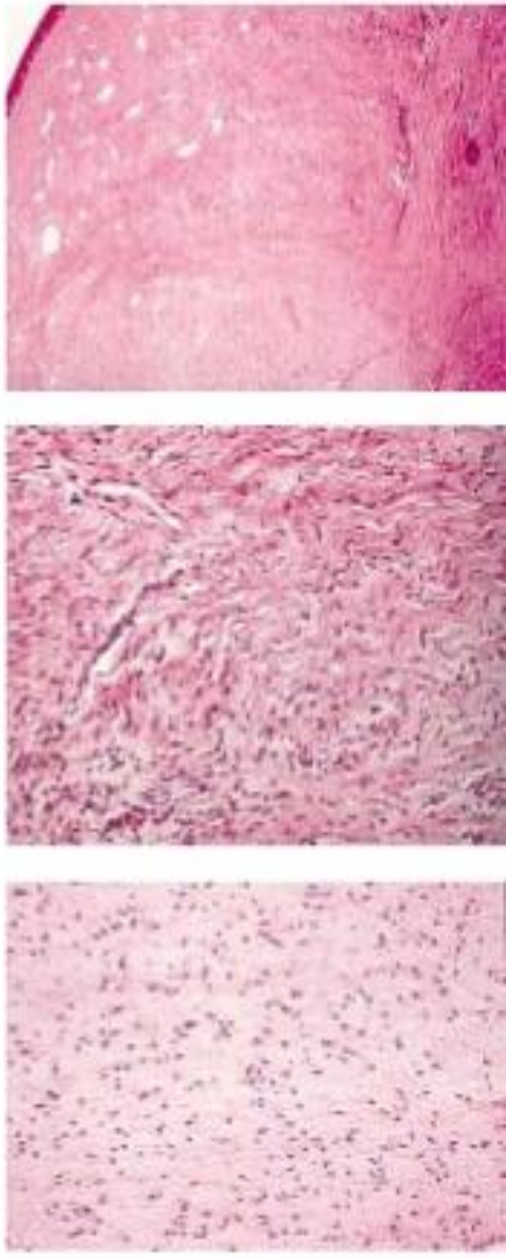




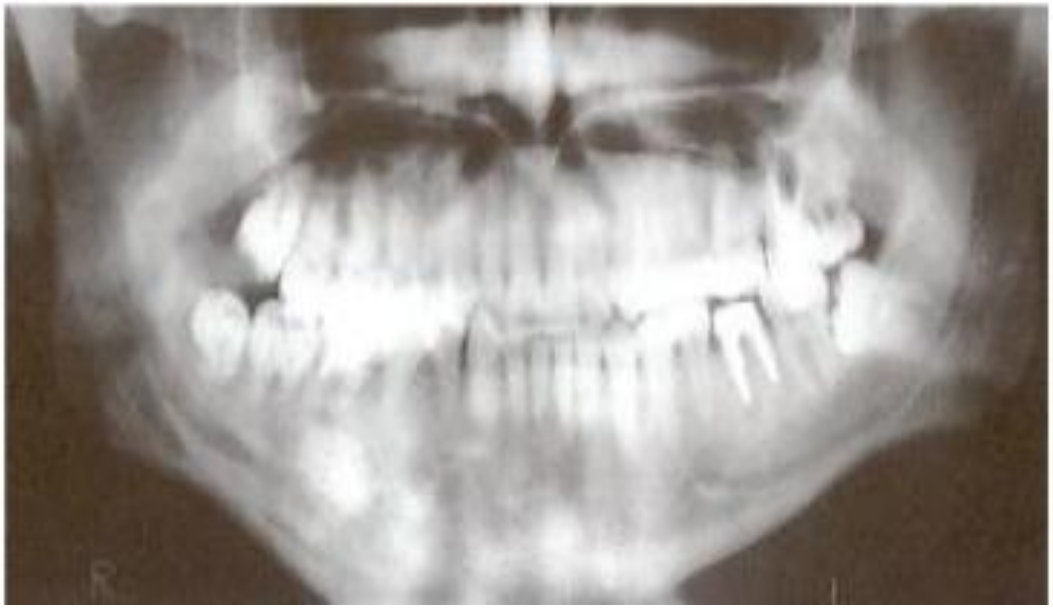
Neurofibromatosis



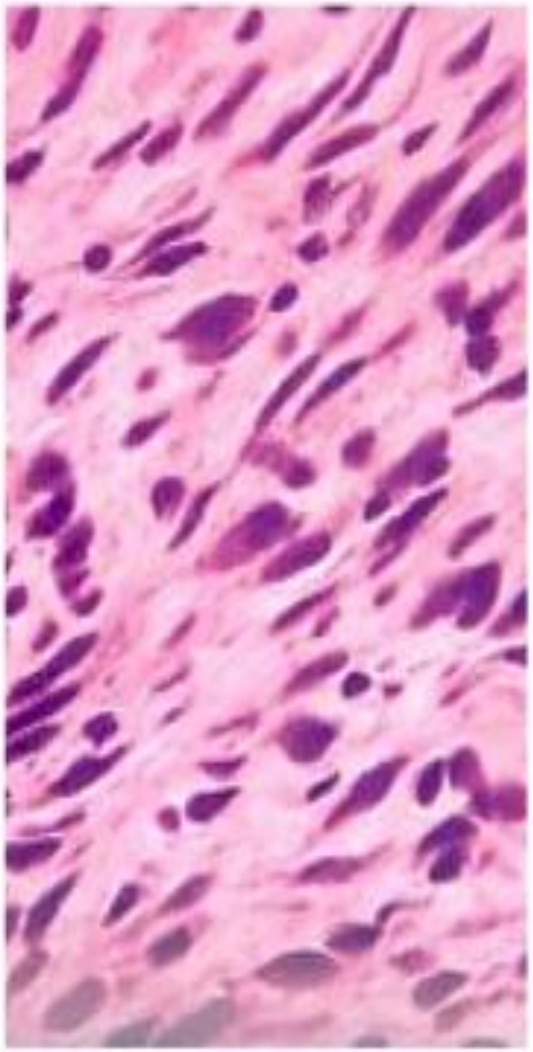

- Neurofibroma:
  - Histopathology:
    - Spindle-shaped cells in connective tissue matrix
    - It may be well circumscribed or blended into surrounding connective tissue
    - Mast cells are scattered
    - Immunohistochemistry with S-100 is a useful tool to confirm diagnosis
    - Treatment: Surgical excision for solitary lesion



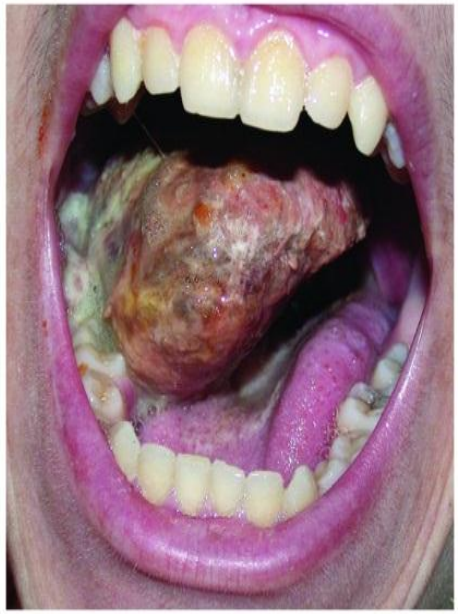
- Malignant peripheral nerve sheet tumor
  - The cell of origin is believed to be the schwann cells and possibly other nerve sheath cells
  - It appears as expansile mass (soft tissue)
  - Asymptomatic
  - Dilation of the mandibular canal (bone)
  - Pain or parasthesia

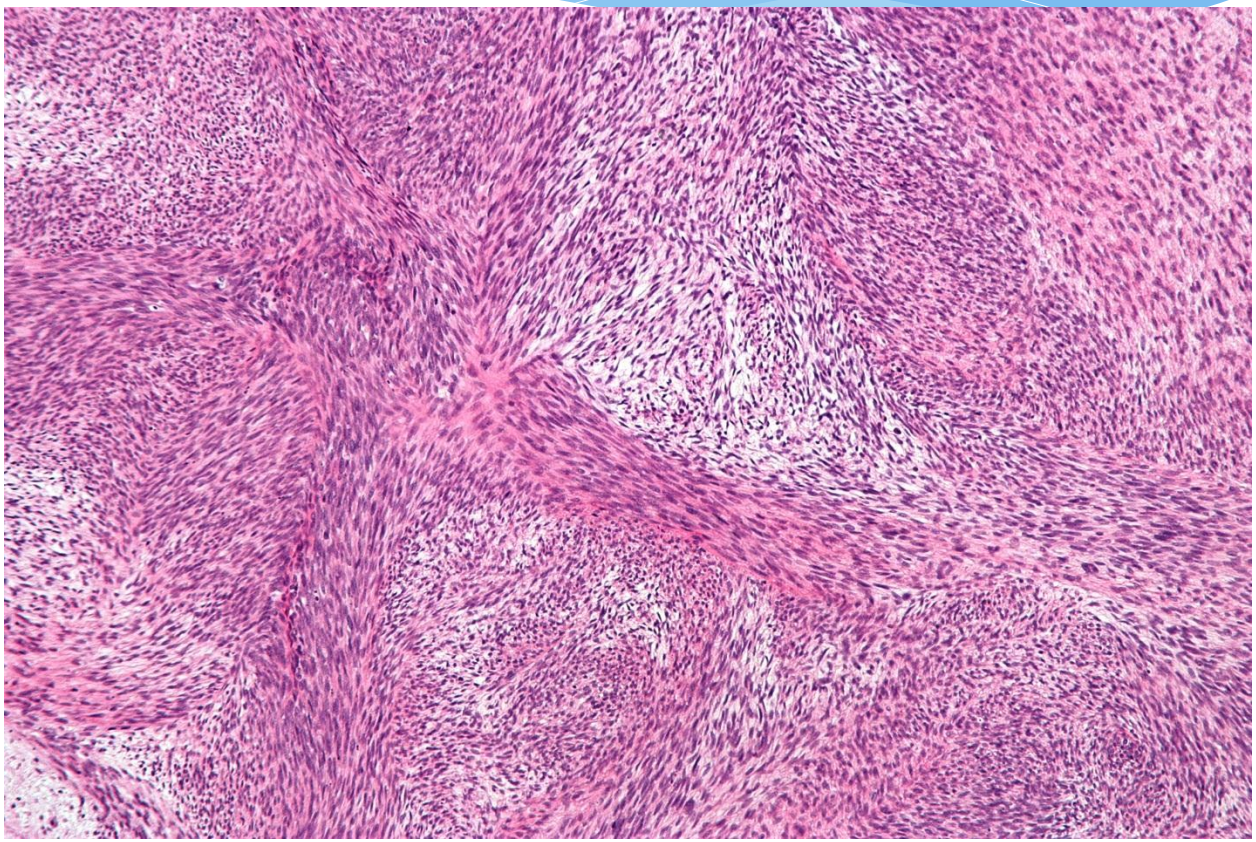


- Malignant peripheral nerve sheet tumor
  - Histopathologically:
    - Abundant spindle cells
    - Mitotic figures
    - Nuclear pleomorphism
  - Treatment: Wide surgical exicion
    - Recurrence is common
    - Metastases are frequently seen

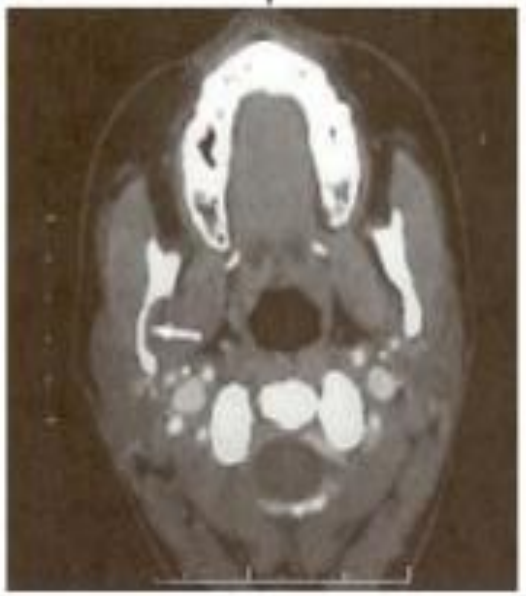


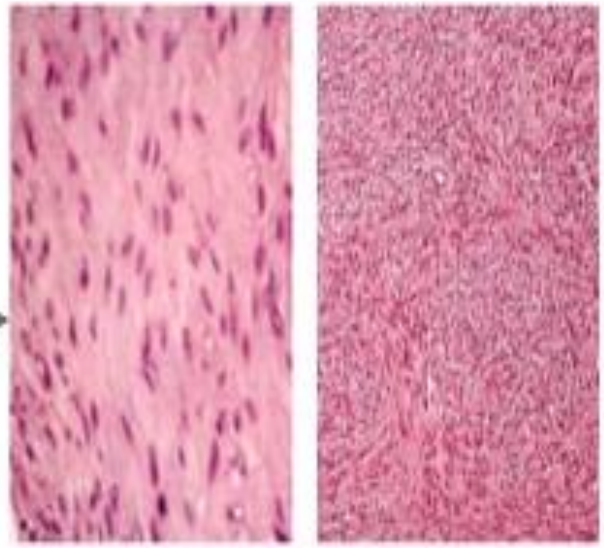
MALIGNANT PERIPHERAL NERVE SHEATH TUMOR (MALIGNANT SCHWANNOMA)





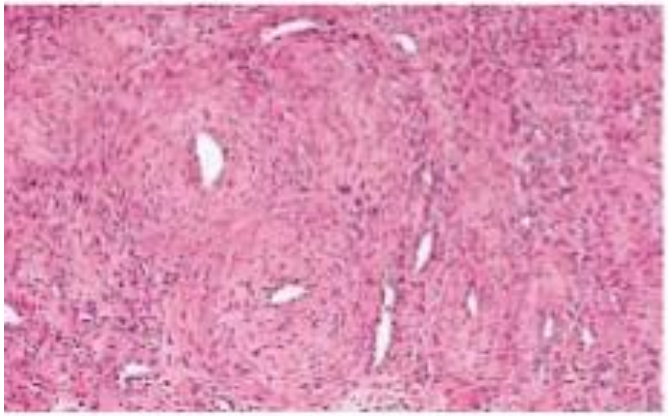
- Neoplasms (Leiomyoma & leiomyosarcoma):
  - Smooth muscle neoplasms are relatively common
  - They may arise anywhere in the body
- Leiomyoma
  - Leiomyomas are commonly arise in the muscularis of the gut and uterus
  - Oral leiomyoma is slow growing & asymptomatic submucosal masses
  - Appears in the tongue, hard palate or buccal mucosa
  - Appears at any age



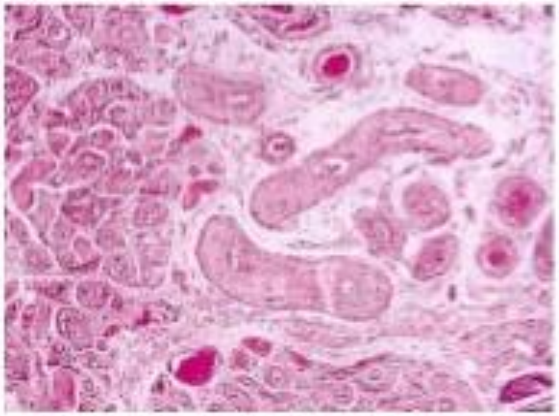


Muscle Lesions

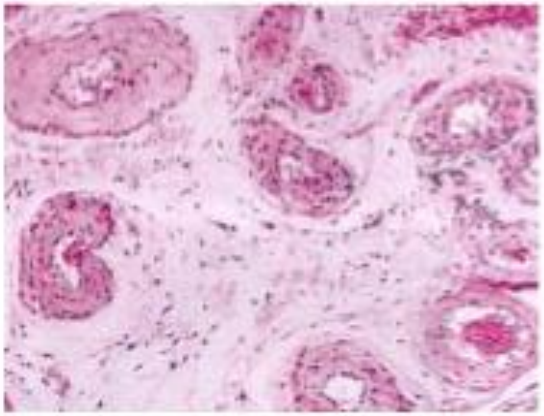
- Leiomyoma
  - Histopathology:
    - Immunohistochemical demonstration of actin and desmin protein expression can confirm diagnosis



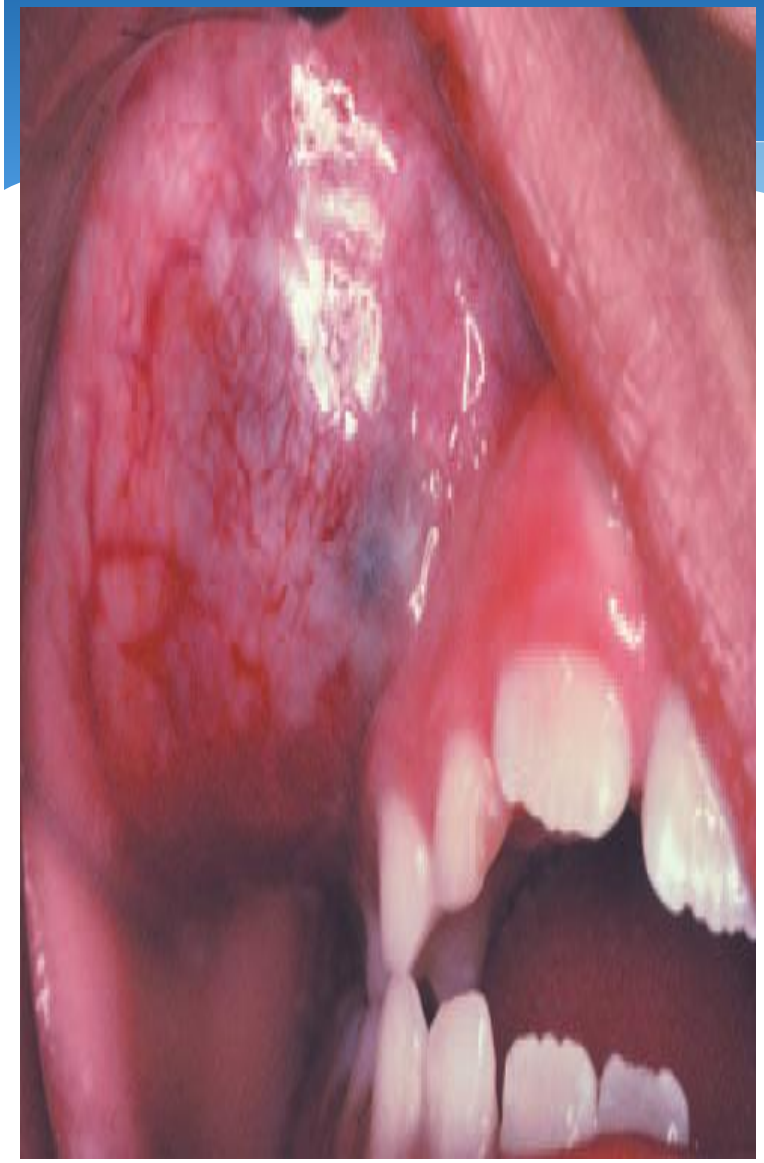
Obvious vascular origin

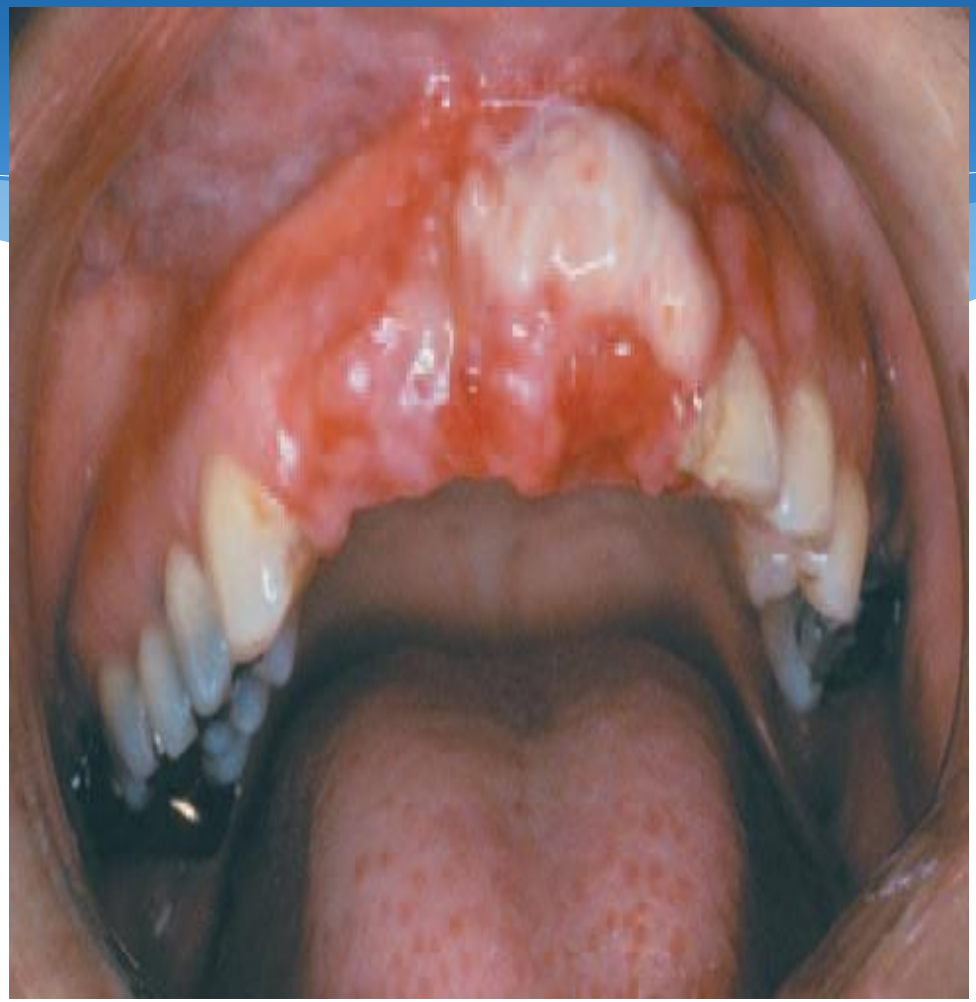


Vascular leiomyoma

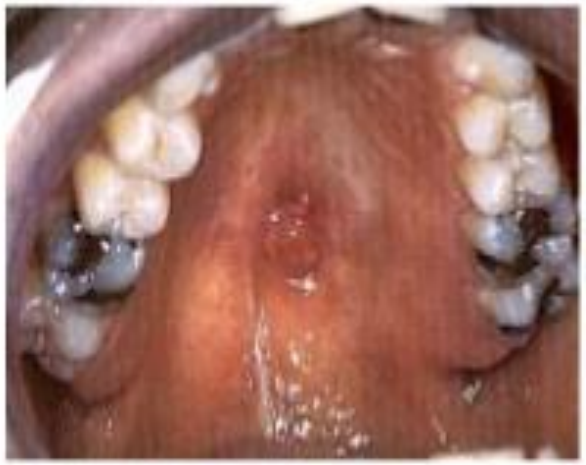


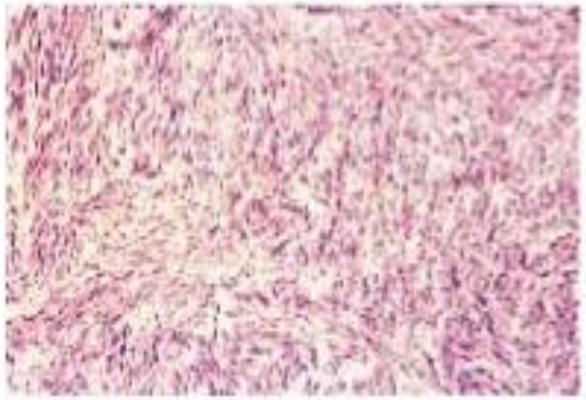
Limited & uniform proliferation around each of the vascular spaces

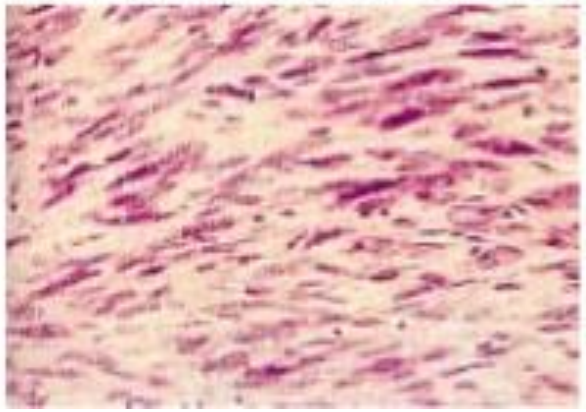




- Neoplasms
- Leiomyosarcoma
  - It is commonly arise in the retroperitoneum, mesentery, or subcutaneous and deep tissue of the limbs
  - It may appear at any age
  - Immunohistocemistry can be a valuable diagnostic tool
  - Treatment: wide surgical excision
  - Metastasis is not uncommon

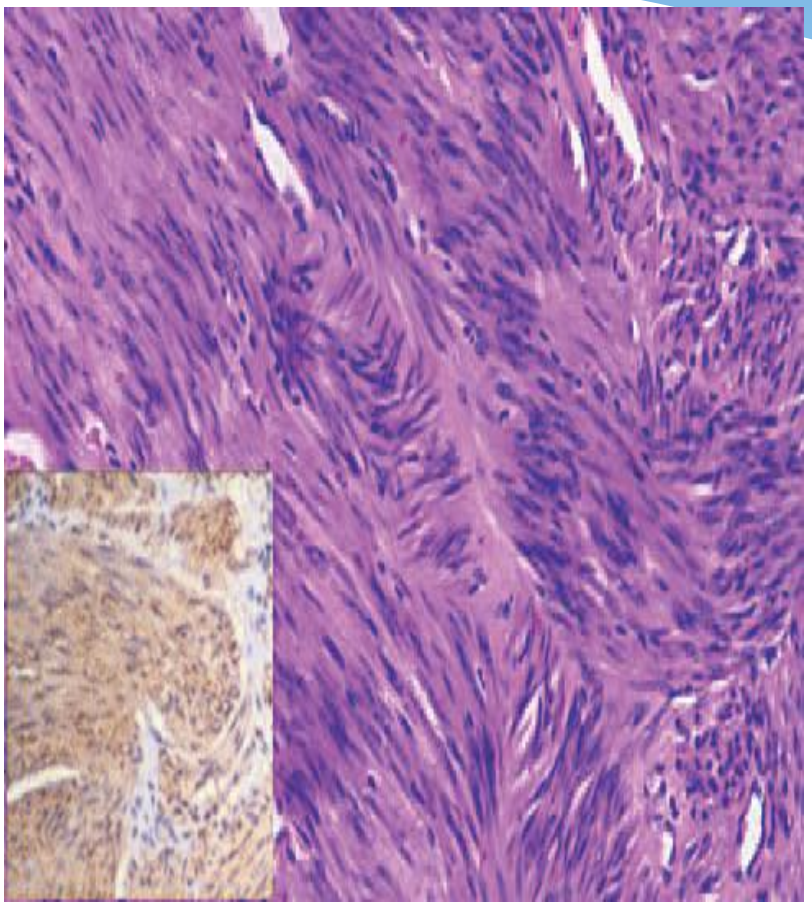


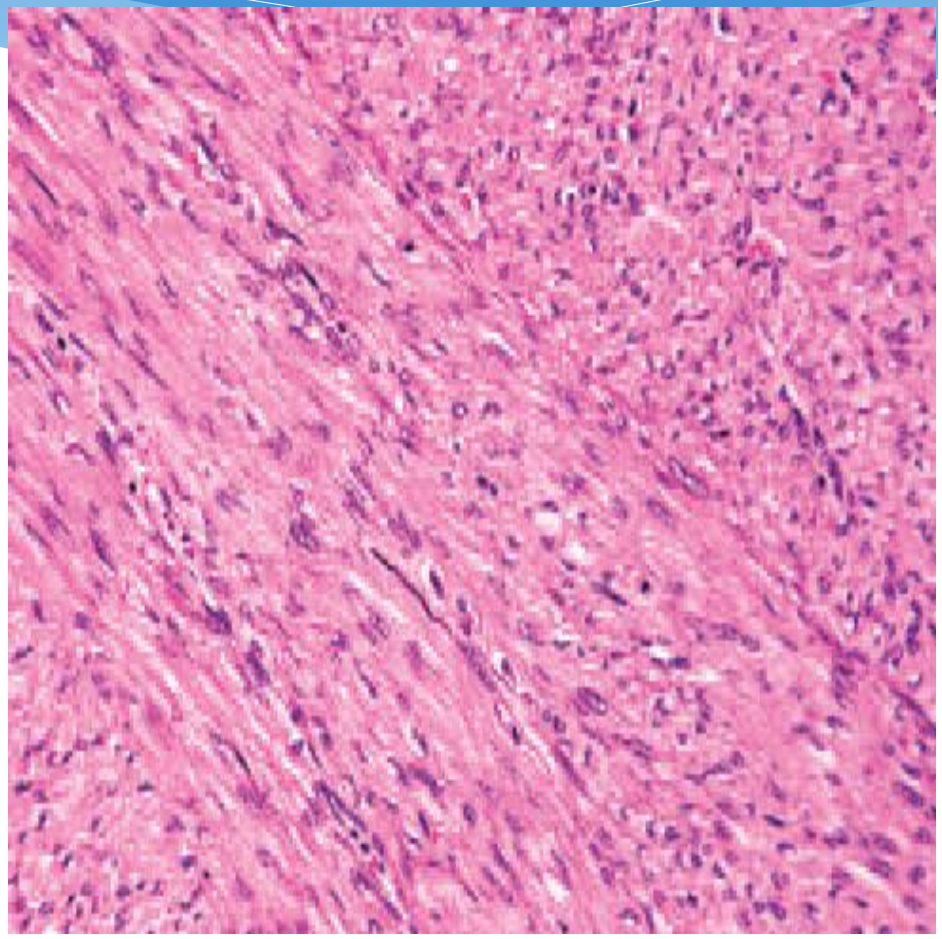




Blunt ended nuclei

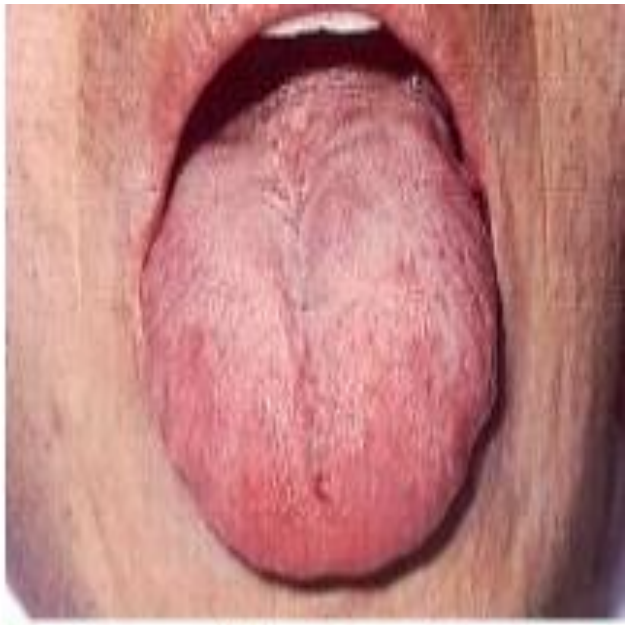
Leiomyoma & Leiomyosarcoma

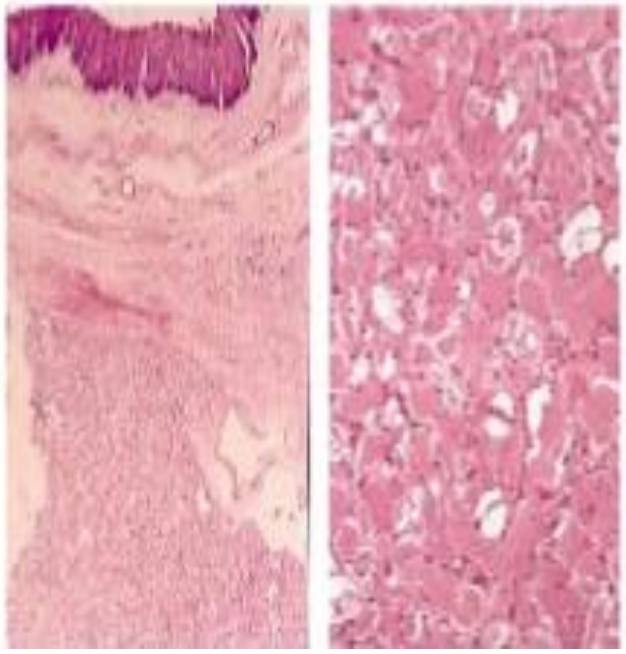




Rhabdomyoma:

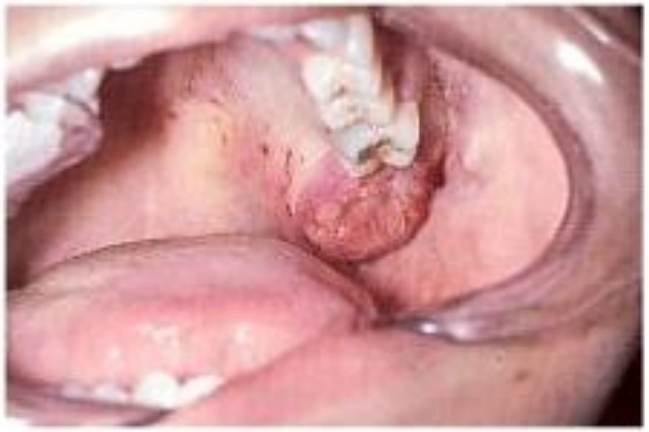
- Predilection for the soft tissues of the head and neck
  - Floor of the mouth, soft palate, tongue & buccal mucosa
- Mean age: 50 years (children to older adults)
- Asymptomatic
- Well defined submucosal mass
- The neoplastic cells mimic their normal counterpart (adult)

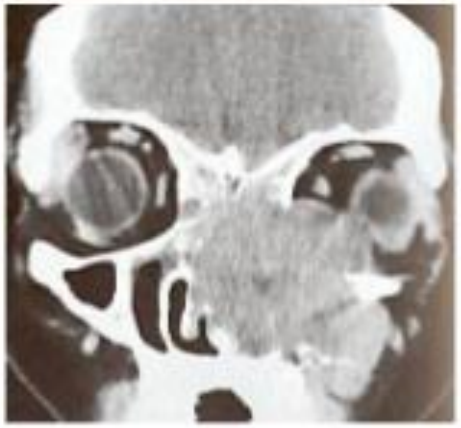




Muscle Lesions

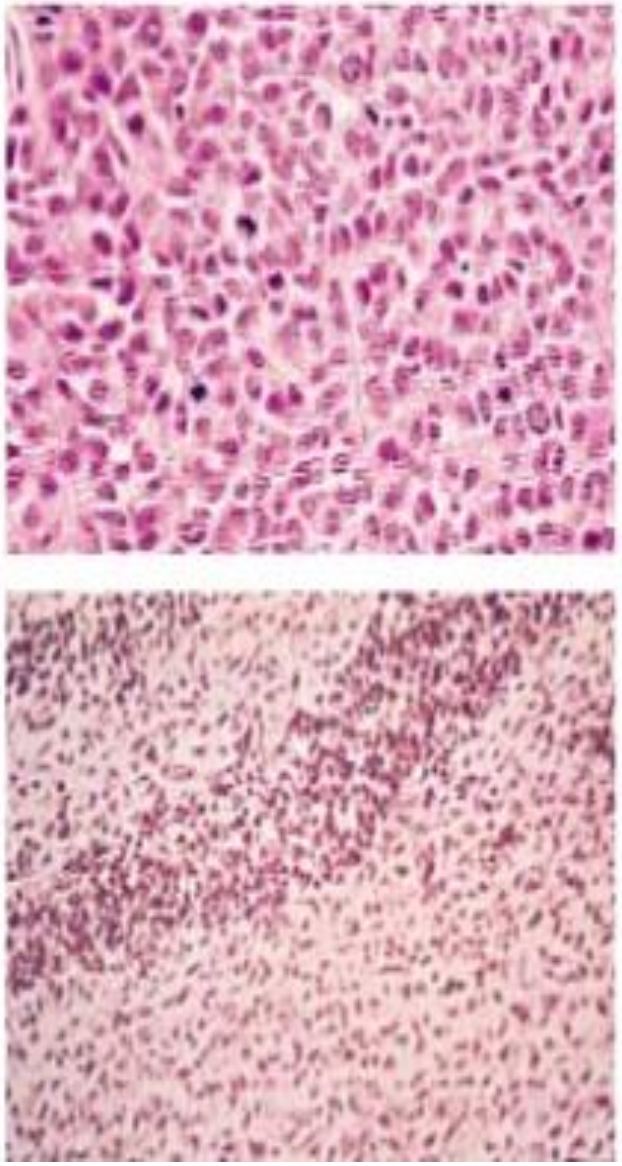
- Rhabdomyosarcoma:
  - When occurs in head and neck is primarily found in children
  - It is a rapidly growing mass
  - May cause pain and parasthesia
  - Common location: Tongue and soft palate





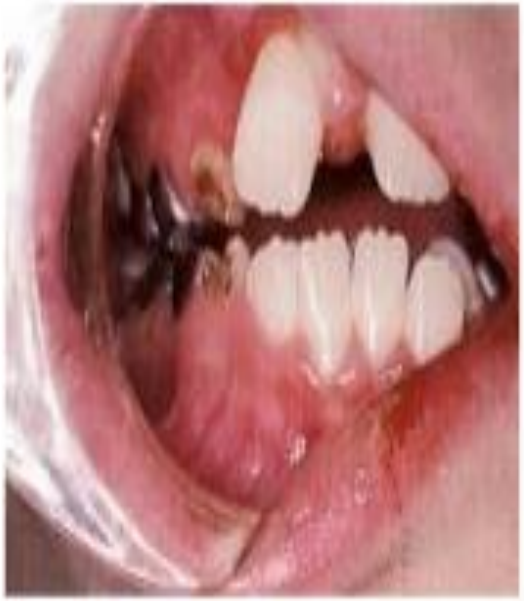
Rhabdomyosarcoma

- Histopathology:
  - Embryonal type (children) consists of primitive round cells in which striations are rarely found
  - Immunohistochemistry demonstrates desmin, actin and myogenin

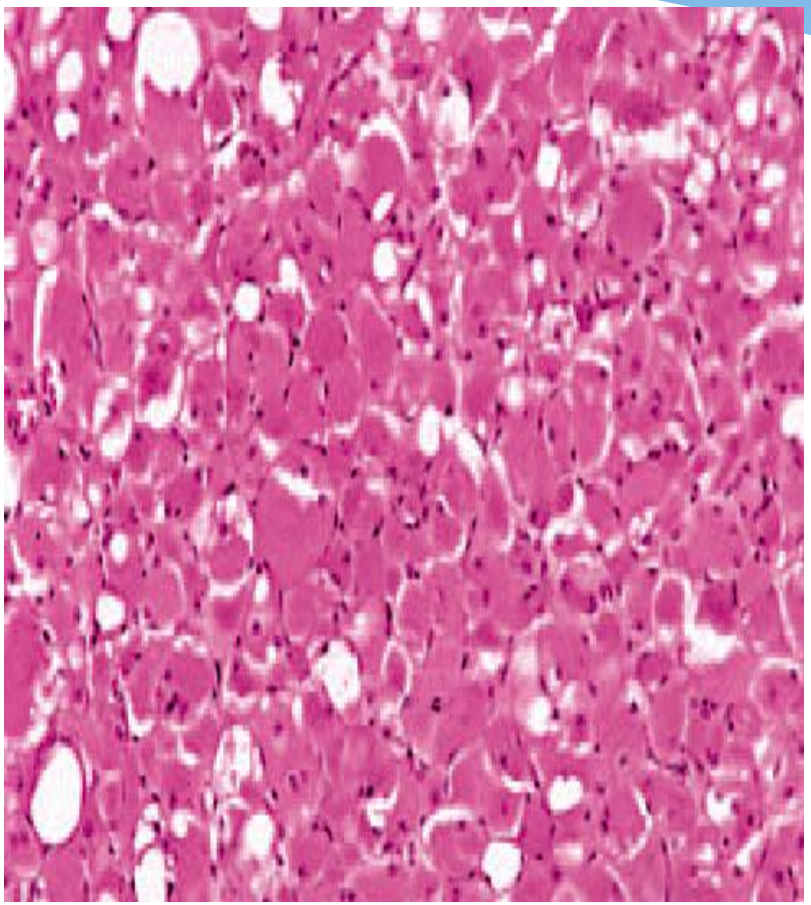


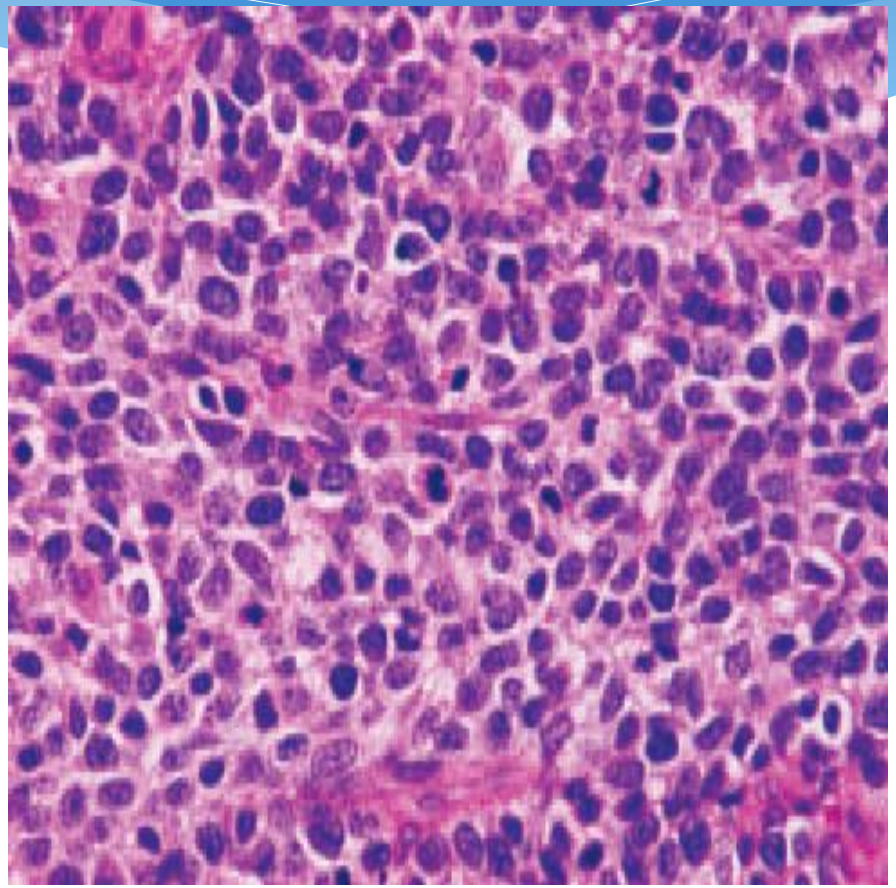
Rhabdomyosarcoma

- Treatment: Combination of surgery, radiation and chemotherapy
- Survival rate incraese from 10% to 70% with this aggressive treatment approach



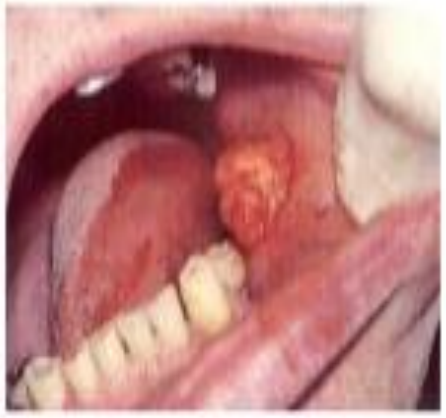
Rhabdomyoma & rhabdomyosarcoma

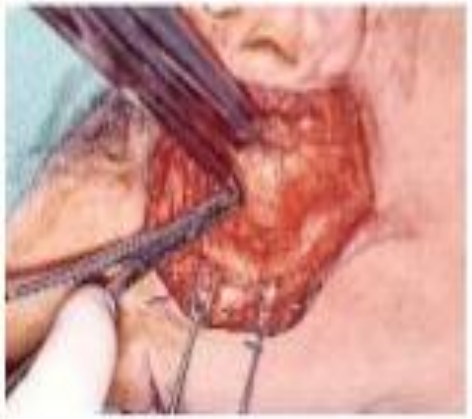




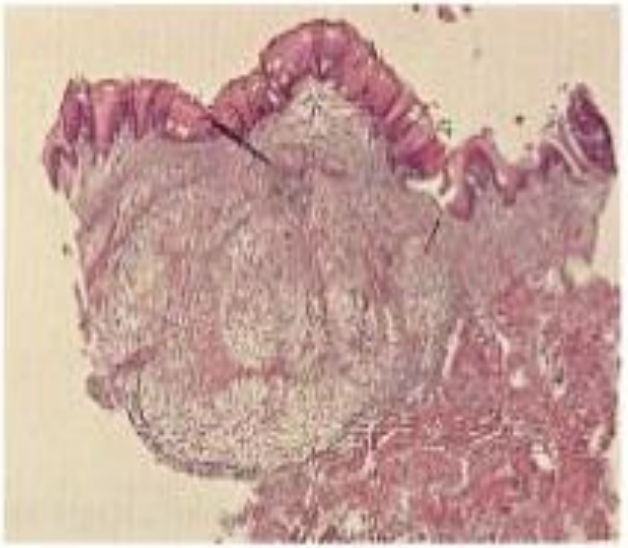
Lipoma:

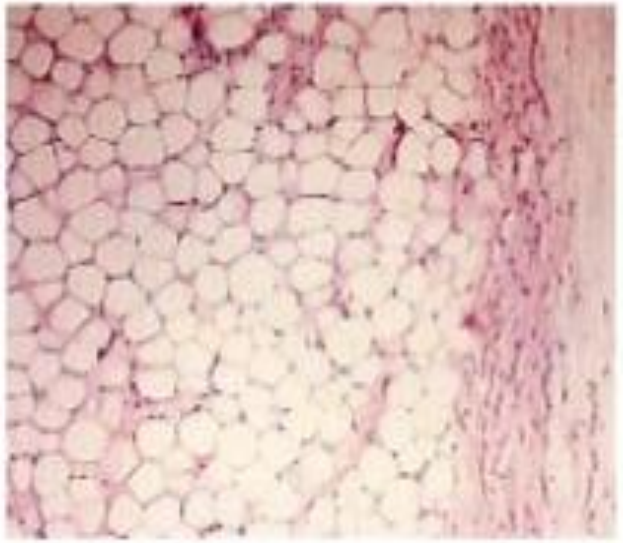
- Location: Buccal mucosa, tongue & floor of the mouth
- Asymptomatic, yellowish submucosal mass
- Overlying epithelium is intact
- Superficial blood vessels are usually evident





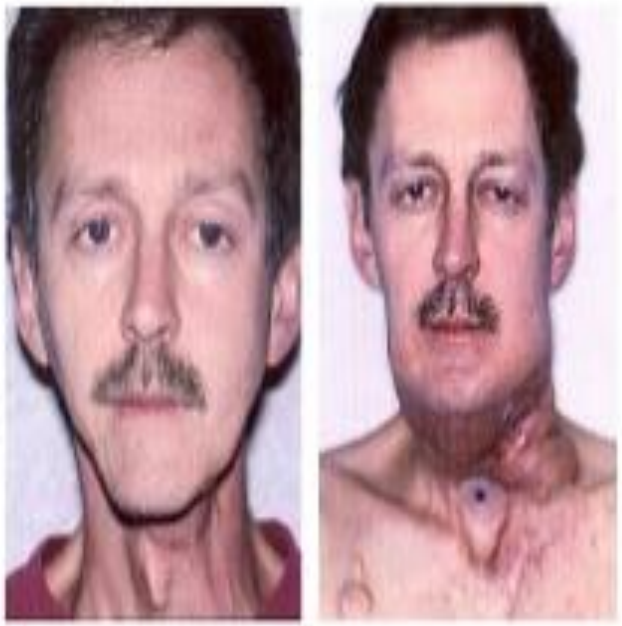
- Lipoma:
  - Well circumscribed, lobulated mass of mature fat cells



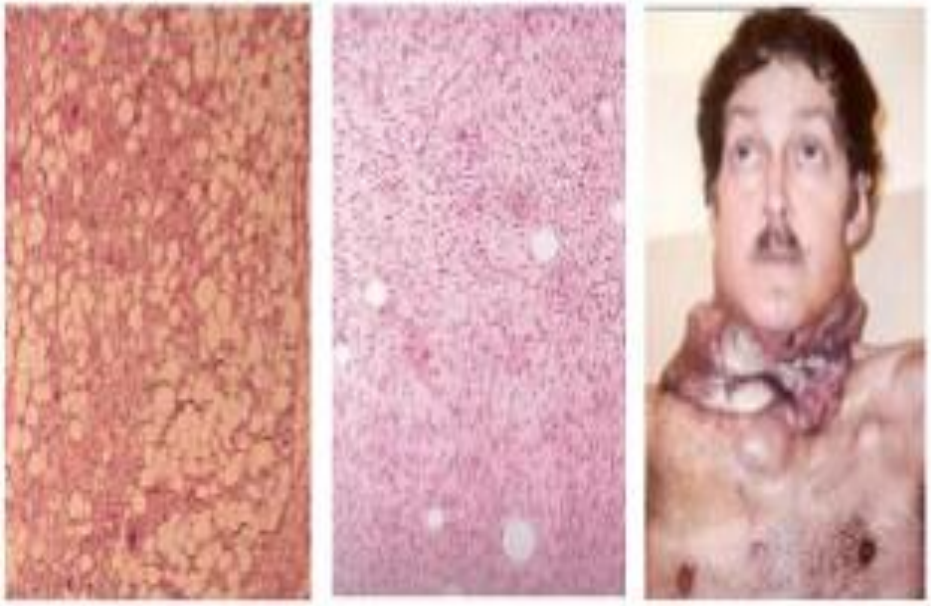


Lipomyosarcoma:

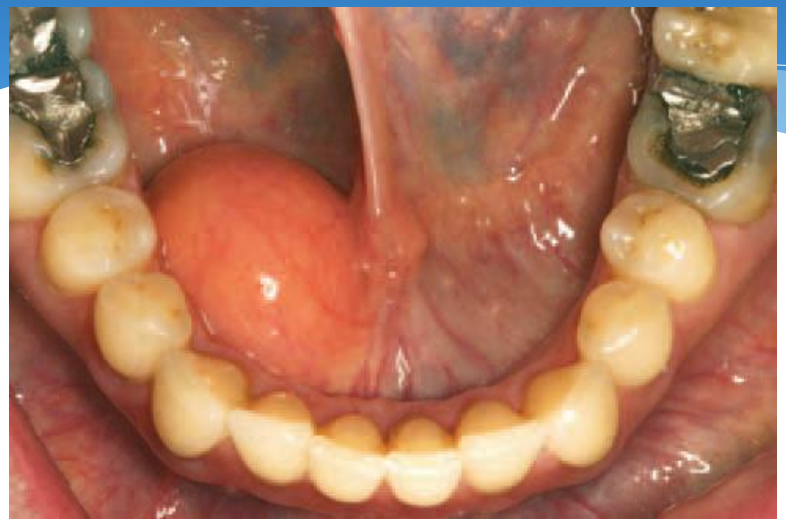
- It is a lesion of adulthood
- It may occur at any site
- Slow growing (mistaken for a benign process)
- Treatment: surgery or radiation
- Prognosis is fair to good

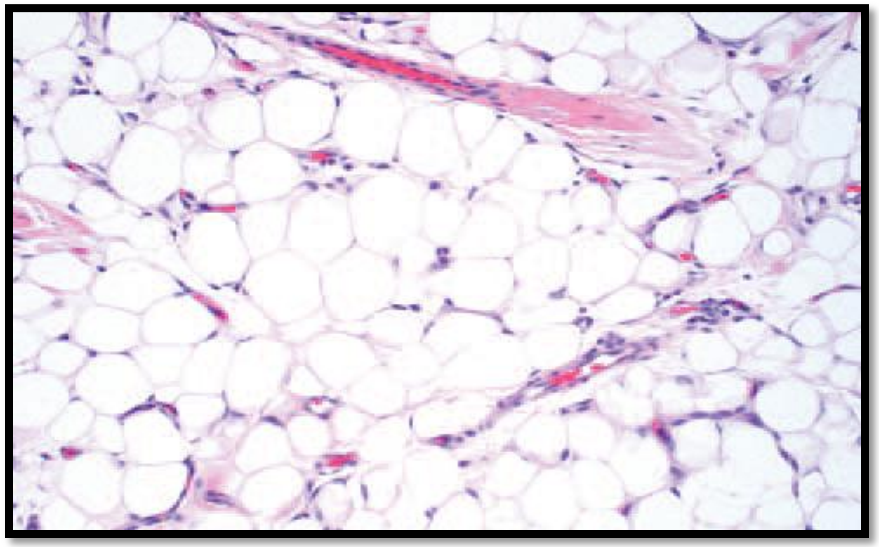


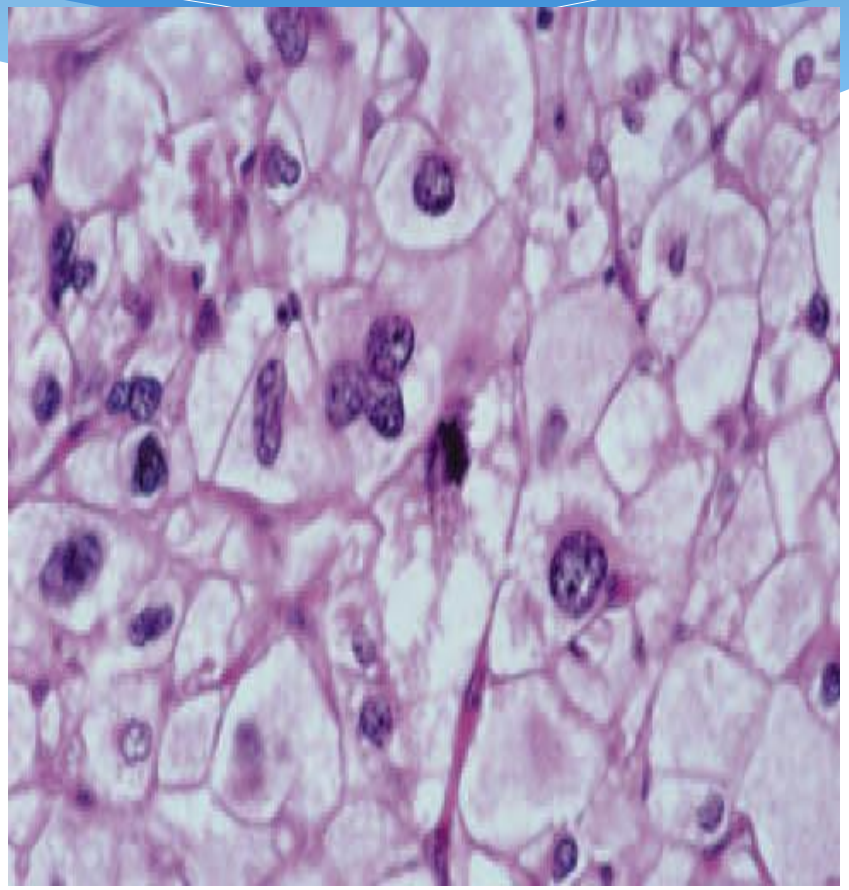
Well differentiated



Lipoma & LIPOSARCOMA







	Lipoma	Liposarcoma
Location	Subcutaneous fat or muscle	Deep location (intramuscular, retroperitoneum)
Size	< 5 cm	> 5 cm
Shape	Round, oval or fusiform	Multilobulated
Contents	Homogeneous fat-like or thin internal (fibromuscular) septa thinner than 2 mm	Inhomogeneous with intralesional non-fat-containing noduli or septa thicker than 2 mm

Suggestive Reading

Brad W Neville, Douglas D Damm, Carl M. Allen, Jerry E Bonguot. Oral And Maxillofacial Pathology, 4th Edition, Elsevier, 2015

THANK YOU