Today's Topic

CLASSIFICATION AND INVESTIGATIONS OF NECK SWELLING

Presented by-

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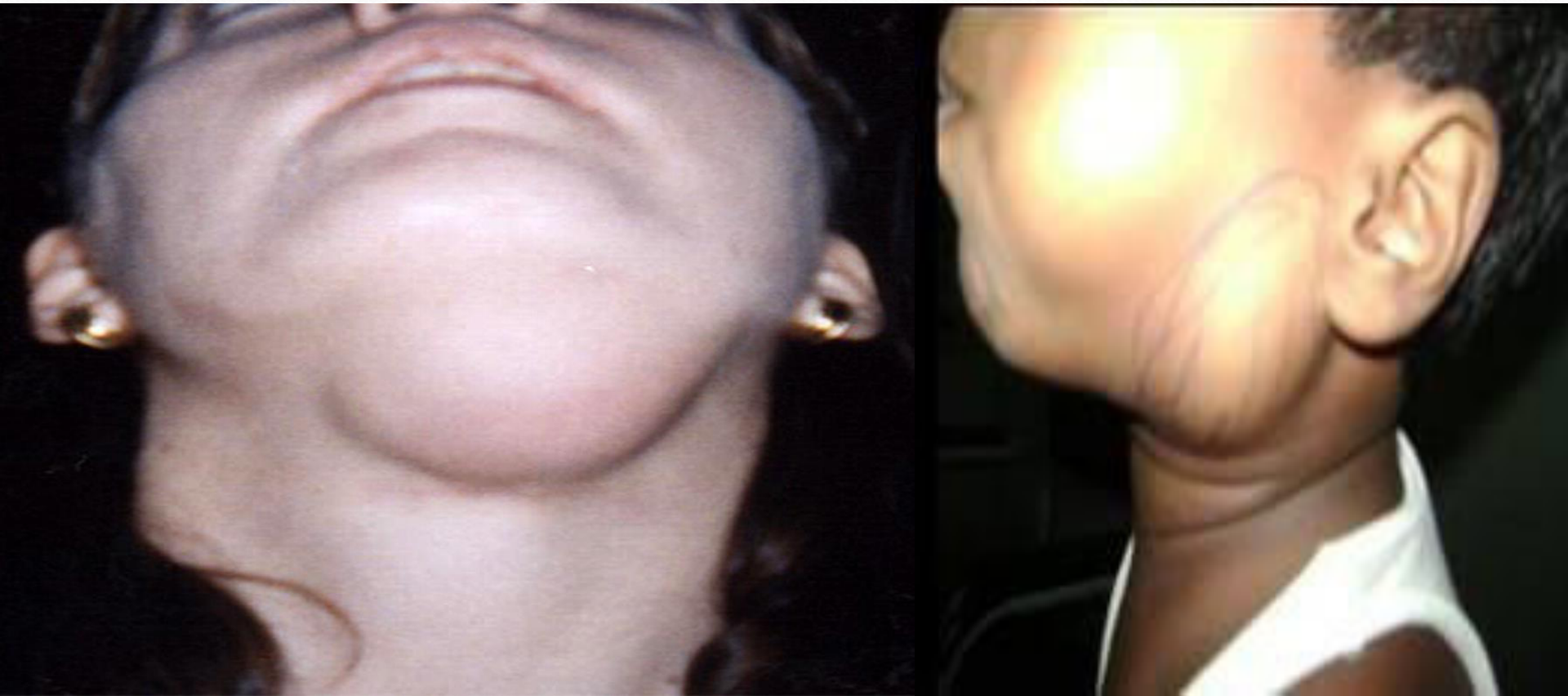
C LASSIFICATION OF NECK SWELLING

According to situation

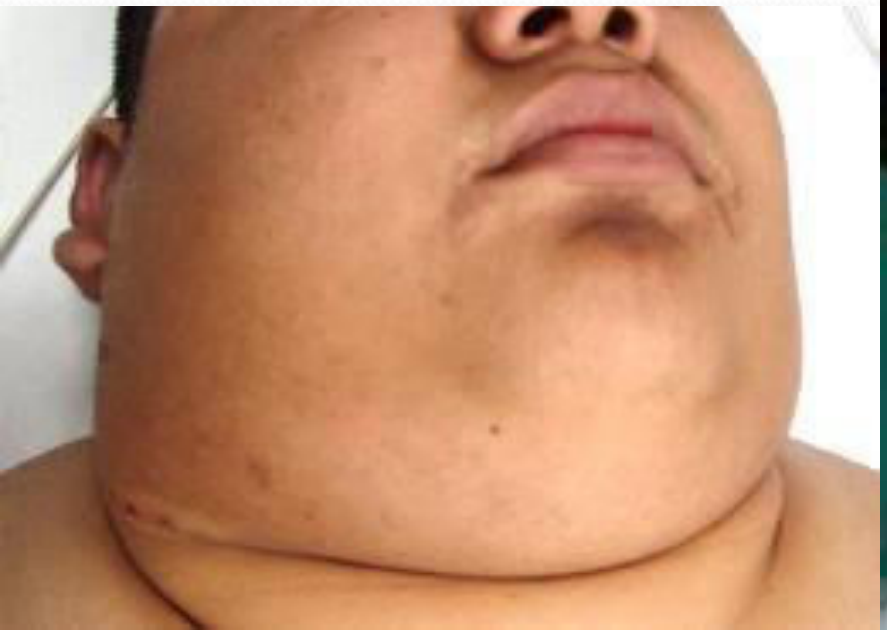
- **Mid line swelling**
- **lateral swelling.**

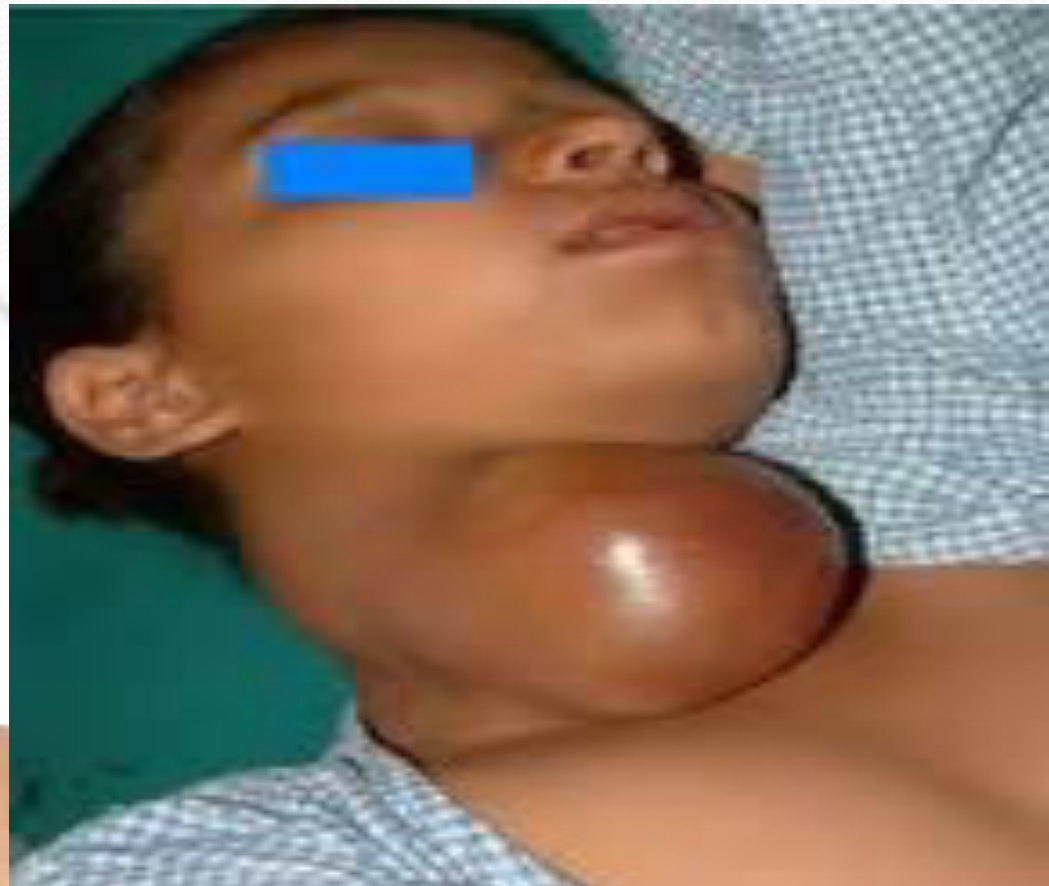


CLASSIFICATION OF NECK SWELLING

According to consistency

- Cystic swelling
- Solid swelling.





NECK SWELLING

- About 50% of the neck swellings are of thyroid swelling or goiter.
- Other swellings are of congenital, developmental, infective, salivary gland diseases, neurogenic & parapharyngeal space tumors.

Midline swellings

- Thyroglossal duct cyst/thyroglossal duct sinus.
- Sublingual dermoid cyst/dermoid cyst.
- Plunging ranula.
- Thyroid swelling at isthmus.
- Subhyoid bursa.
- Pretrachial, prelaryngeal lymphnodes.

Lateral neck swelling

- Thyroid swelling or goiter.
- Lymph node enlargement- non-specific cause.
  Bacterial cause
  Viral cause.
  Neoplastic cause.
  Metastatic .
- Lymphangiomas / cystic hygroma.
- Branchial cyst/ Branchial sinus.
- Salivary gland swelling- parotid swelling
  Submandibular gland swelling.
- Lipoma .
- Sebaceous cyst.
- Laryngocele / pharyngeal pouches.
- Carotid body tumour/ schwannoma .

According to consistency

1. Cystic swelling
2. Solid swelling

Cystic swelling- Thyroglossal cyst.

- **Dermoid cyst.**
- **Branchial cyst.**
- **Plunging ranula.**
- **Cystic hygroma/ lymphangioma.**
- **Laryngocele.**

Solid swelling

- Lymph node swelling.
- Thyroid swelling.
- Salivary gland swelling
- Carotid body tumor.
- Branchiogenic carcinoma.
- Sternomastoid tumor.
- Cervical rib.

INVESTIGATIONS OF NECK SWELLING

- Complete blood count-Hb%, TC,DC & ESR.
- X-ray soft tissue neck both AP & Lat. View.
- X-ray chest both PA & AP view.
- USG of neck.
- Thyroid function tests- TSH, Free T3 & Free T4.
  Thyroid gland scanning.
  Iodine uptake test.
- C T scan /MRI.
- FNAC/ Biopsy.
- Carotid angiogram.
- PBF

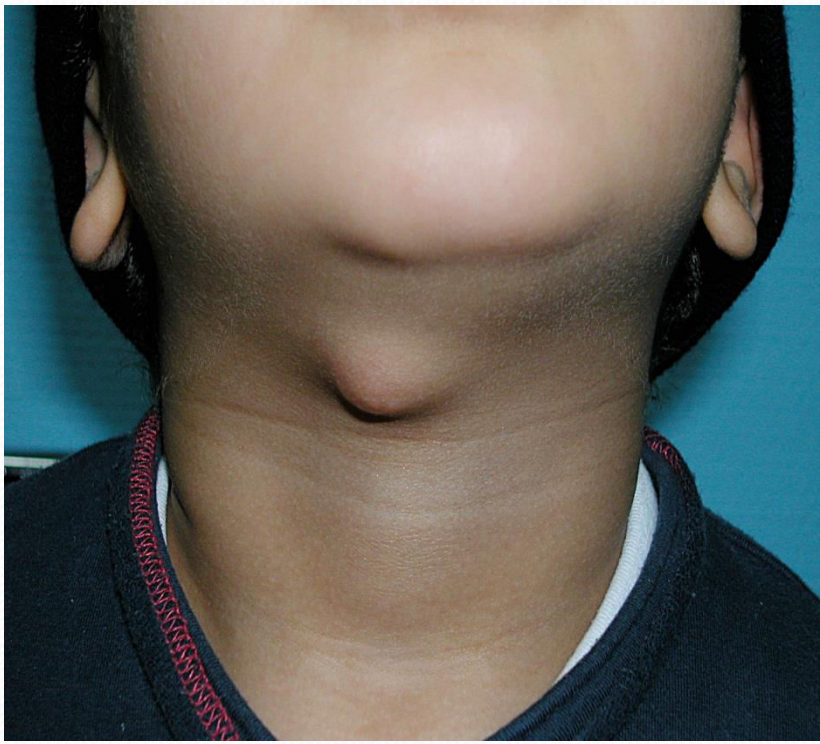
Thyroglossal cyst

A **thyroglossal cyst**

is a fibrous cyst that

forms from a persistent

thyroglossal duct.



Thyroglossal cyst

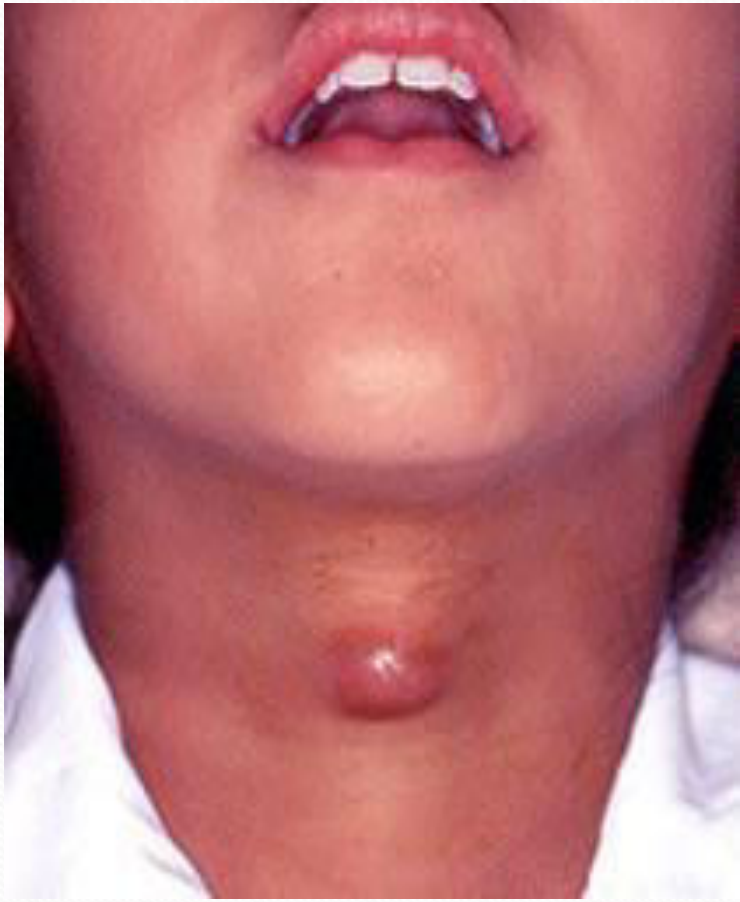
presentation

- Usually presents as a midline neck lump and is usually painless, smooth and cystic.
- The most common locations is midline or slightly off midline.
- A thyroglossal cyst can develop anywhere along a thyroglossal duct.
- A thyroglossal cyst will move upwards with protrusion of the tongue.

Thyroglossal cyst

Embryology

- The thyroglossal tract arises from the foramen caecum at the junction of the anterior two-thirds and posterior one-third of the tongue.
- Any part of the tract can persist causing a sinus, fistula or cyst.
- Most fistulae are acquired following rupture or incision of the infected thyroglossal cyst.



Thyroglossal cyst

Clinical features

- Most often present with a palpable asymptomatic midline neck mass below the level of the hyoid bone.
- Moves during swallowing or on protrusion of the tongue.
- Some patients presents with neck or throat pain, or dysphagia.
- 75% present as midline swellings.
- The remainder can be found as far lateral as lateral tip of the hyoid bone.
- Typically, the cyst will move upwards on protrusion of the tongue,

Thyroglossal cyst

Investigations:

1. Thyroid scan –to know functioning thyroid Tissue.

2. F N A C.

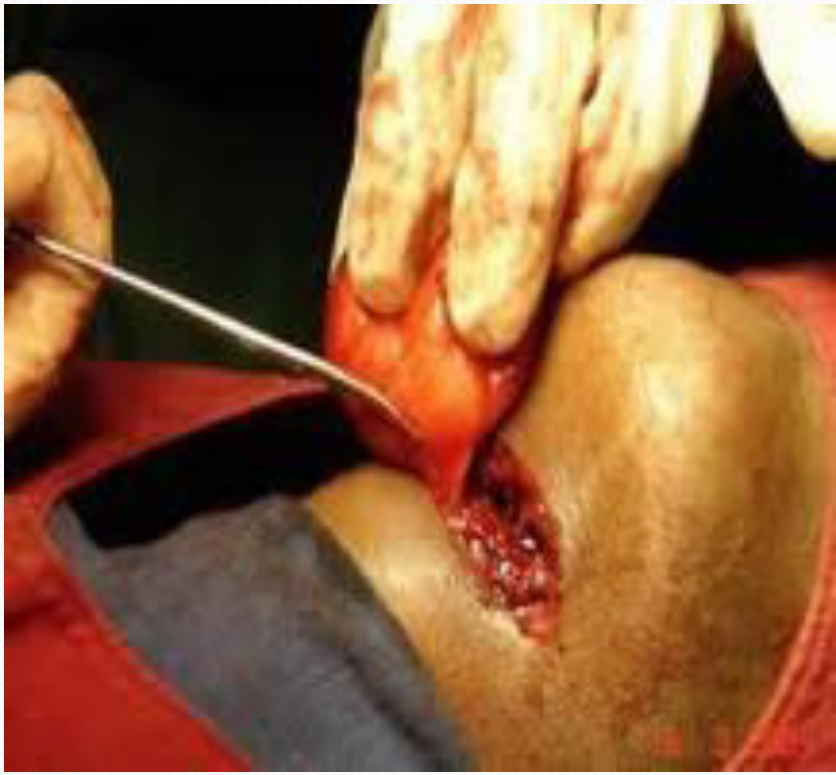
Thyroglossal cyst

Treatment

- Surgical resection- requiring concomitant removal of the midsection of the hyoid bone (Sis-trunk procedure) to prevent recurrence.
- The Sis-trunk procedure involves excision not only of the cyst but also of the path's tract and branches.

Sublingual dermoid cyst (Dermoid cyst)

- It is a thin walled cyst lined by squamous epithelium and contains cheesy material.
- These cysts are always in midline.



Sublingual dermoid cyst (Dermoid cyst)

TYPES-

a. According to position
b. According to Origin

a. According to position

- Midline variety- Sublingual
  Cervical
- Lateral variety- Sublingual
  Cervical

Types-According to Origin

1. Epidermoid cyst- lined with squamous epithelium & contain chessy materal.

2. True dermoid cyst- lined with sq. epithelium contain hair, hair follicles, sebaceous gland & sweet glands.

3. Teratoid cyst- lined with sq. or respiratory epithelium and contain ectodermal, endodermal or mesodermal elements is teeth, nail , thyroid tissue.

Sublingual dermoid cyst (Dermoid cyst)

Clinical Features

- Usually present in the ages of 10 to 15 years.
- Equally in both sexes.

Symptoms

- Presents with painless swelling under the tongue.
- Sometimes sudden increase in size may become painful.

Signs

- Appear as a midline swelling in the floor of mouth with a smooth surface.(sublingual type)
- Gives rise to double chin appearance.
- Does not move with protrusion of tongue.

Sublingual dermoid cyst (Dermoid cyst)

Differential diagnosis:

- **Ranula**- Brilliant translucent midline swelling
- **Suprahyoid thyroglossal cust**- moves up with protrusion of tongue.
- **Submental lymph node**.

Treatment:

- Treatment for dermoid cyst is complete surgical removal, preferably in one piece and without any spillage of cyst contents.

Ranula

- RANULA is a mucous retention cyst of the sublingual salivary gland and is seen as a brilliantly translucent cystic mass in the floor of the mouth.
- It occurs as a result of obstruction of the secretary duct of the sublingual salivary gland.
- The Latin *rana* means frog , and a ranula is so named because its appearance is sometimes compared to a frog's underbelly.
- Two types- simple ranula and plunging ranula.

Ranula

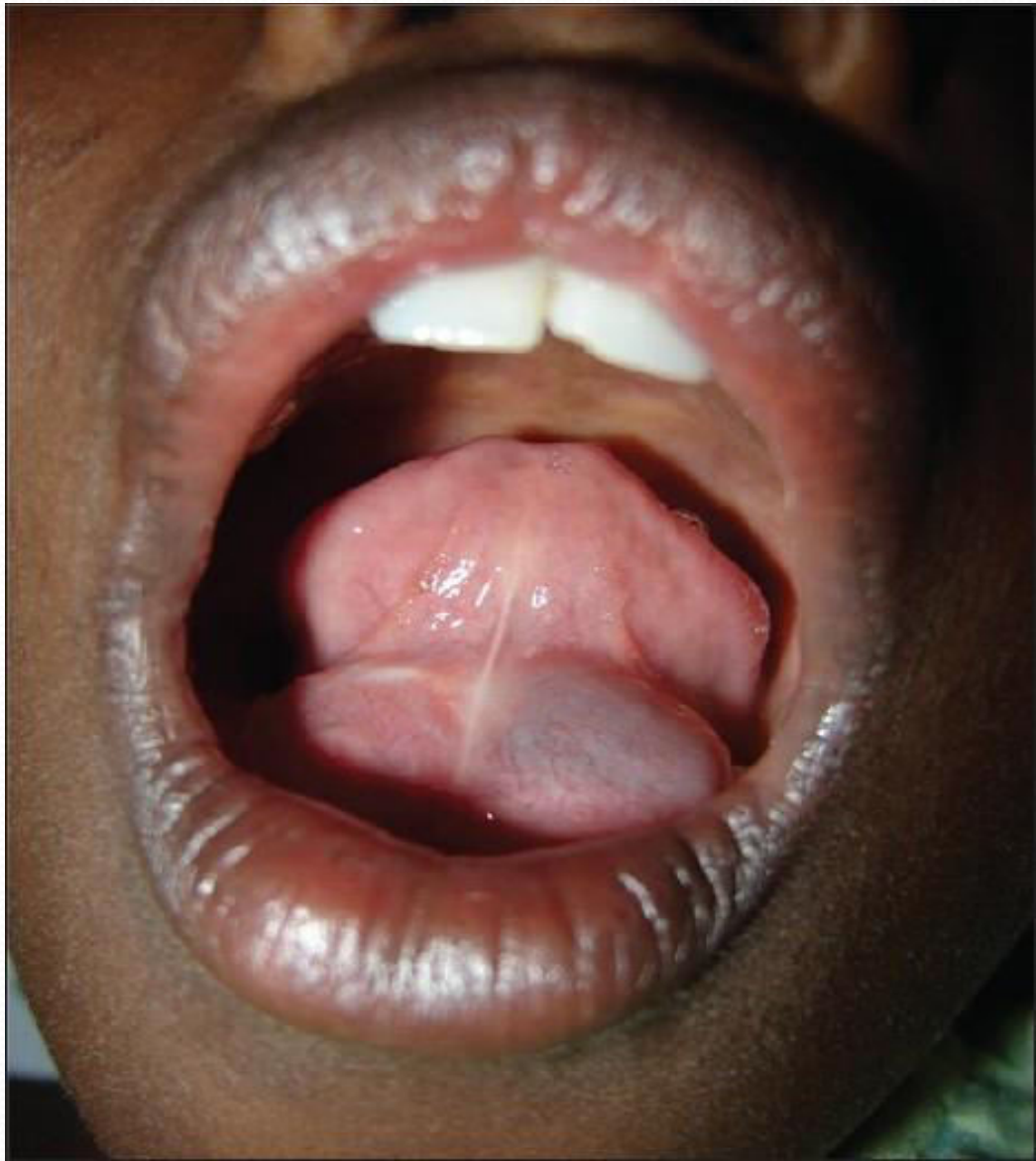
Clinical features

- Present with swelling in the floor of the mouth.
- Bluish in colour
- May cause dysarthria and difficulty in chewing.
- May also interfere with deglutition.
- Swelling is brilliantly positive for transillumination and is fluctuant.
- Patient may present with a neck swelling in case of plunging ranula.

Ranula

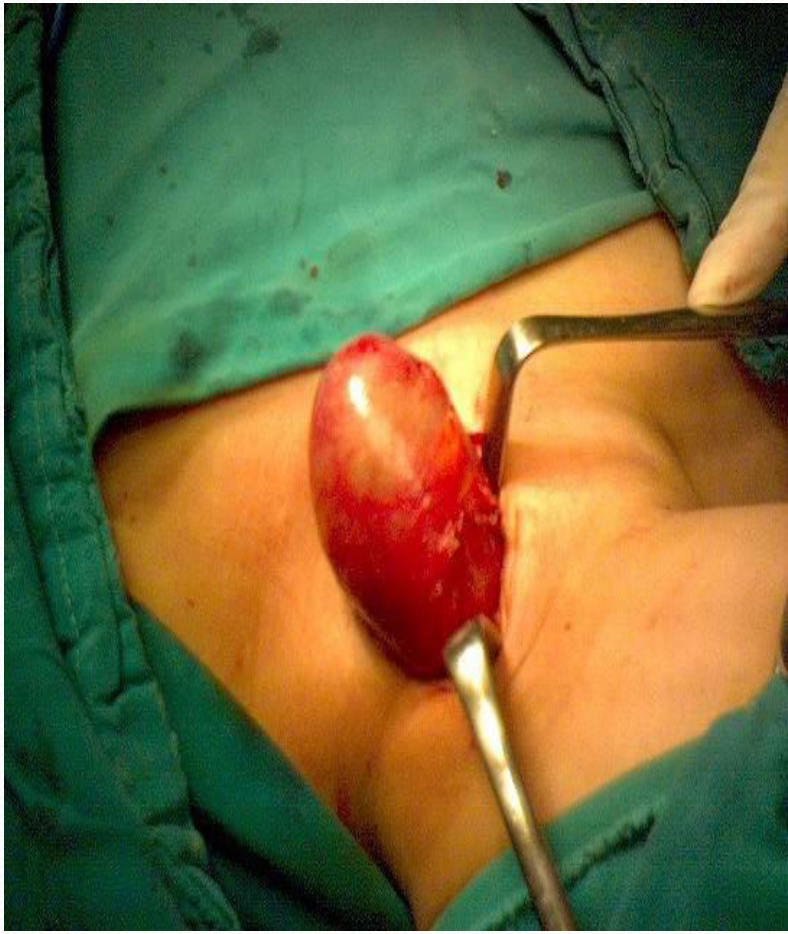
Treatment

- Marsupialization is treatment of choice.
- Excision of both the gland and the lesion.



Branchial cleft cyst

A **branchial cleft cyst** is an oval, movable cystic mass that develops under the skin in the neck between the sternocledomastoid muscle and the pharynx.



Branchial cleft cyst

Pathology

- Cyst wall either squamous or columnar with lymphoid infiltrate, often with prominent germinal centers.
- The cyst may contain granular and keratinaceous cellular debris.
- Cholesterol crystals may be found in the fluid extracted from a branchial cyst.

Pathophysiology

- Branchial cleft cysts are remnants of embryonic development and result from a failure of obliteration of the branchial cleft.

Branchial cleft cyst

Types

- First branchial cleft cysts typically originate in the angle of mandible and extend to the external auditory canal.
- Second branchial cleft cysts are most common. They are found along the anterior border of the sternocledomastiod, passes through the carotid bifurcation and into the Tonsiller pillar .
- Third branchial cleft cysts are rare and found in the lateral neck.

Branchial cleft cyst

Symptoms

- Painless swelling in upper and lateral part of neck.
- If infected it becomes painful.
- Most branchial cleft cysts are asymptomatic, but they may become infected.

Branchial cleft cyst

Signs

- Swelling is usually oval in shape but may be round and soft in consistency and cannot be reduced or compressed.
- Fluctuation test- positive.
- Transillumination may be negative.
- Commonly seen in the upper and lateral portion of the neck deep to the upper third of anterior border of the sternomastoid muscle and beneath the angle of mandible.
- An infected cyst can present like an abscess.

Branchial cleft cyst

Investigations

- FNAC-cholesterol crystals positive.
- Contrast x-ray (fistulogram)

Differential diagnosis

- **Submandibular salivary gland swelling**
- **plunging ranula**
- **Cystic hygroma**
- **Cervical lymph node**

Treatment

- Complete excision of the cyst or fistula.

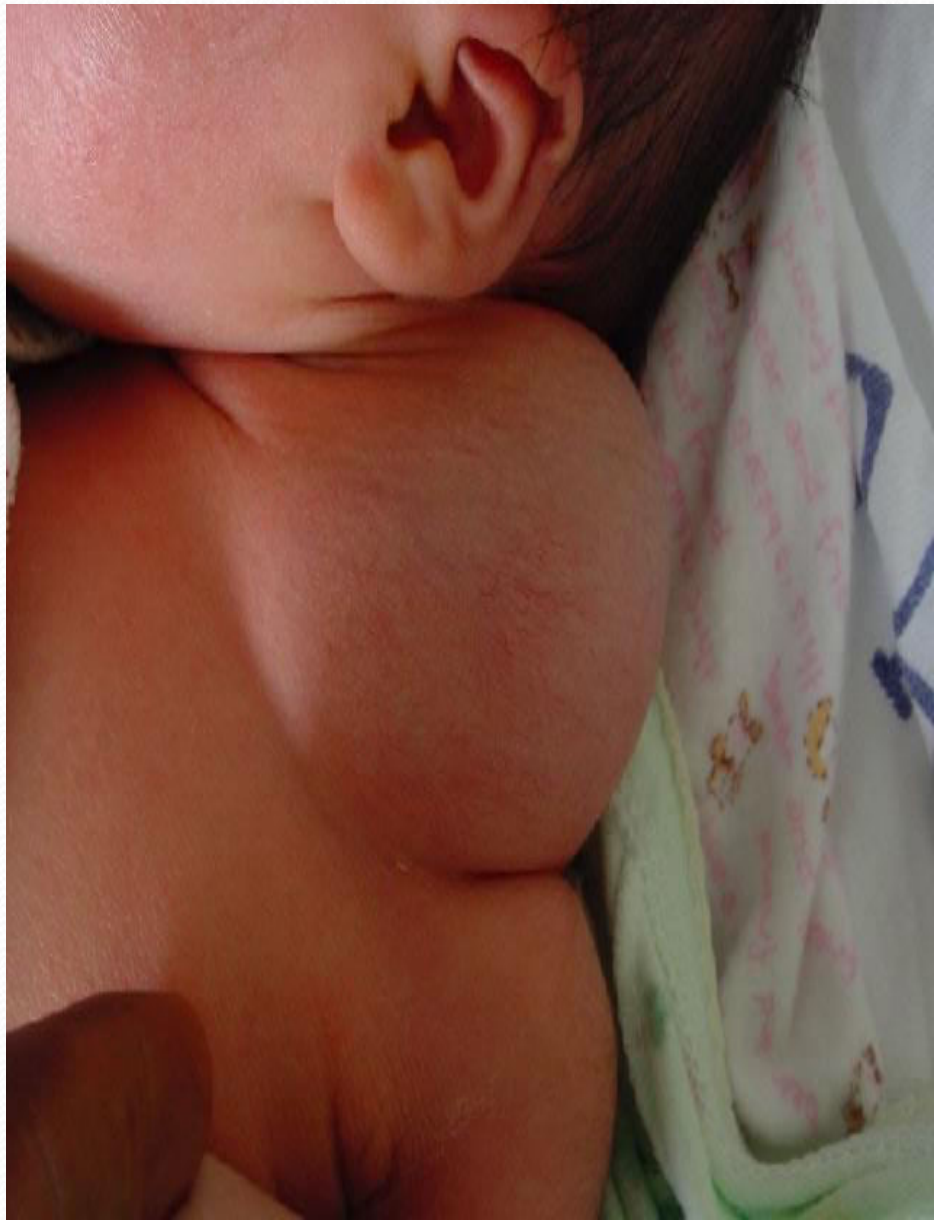
Cystic hygroma/ lymphangoima

- Lymphangioma results from abnormal development of the lymphatic system with obstruction of lymphatic drainage from the affected area causing multicentric endothelial lining spaces.
- Cystic hygroma are large lymphangiomas found most commonly in children.

Cystic hygroma/ lymphangoima

Sites of cystic hygroma

- **Posterior** triangle of neck- commonest site. The swelling gradually extends upwards to the ear and down towards lower neck.
- **Cheek**
- **Tongue**
- **Base of tongue**
- **Supraglottic larynx**
- **Mediatinum**



Cystic hygroma/ lymphangoima

Symptoms

- Commonly seen in infants and early childhood.
- Presents with painless, slowly progressive lump or swelling commonly in the lateral aspect of the neck.

Signs

- Swelling often seen in the lower third of neck in posterior triangle.
- Size varies extremely, usually round in shape with smooth indistinct margin, with a smooth and lobulated surface.
- Swelling is often soft and cystic in consistency and it may increase in size on coughing (cough impulse)
- Transillumination test is brilliantly positive.

Cystic hygroma/ lymphangoima

Complications

- Stridor-due to tracheal shift and compression or Supraglottic involvement.
- Hemorrhage – causes painful enlargement of cystic hygroma.
- Infection can cause pain and rapid increase in size.

Investigations

- MRI / CT imaging- to assess the exact extent of the lesion and its relation to the vital structures.

Cystic hygroma/ lymphangoima

Treatment

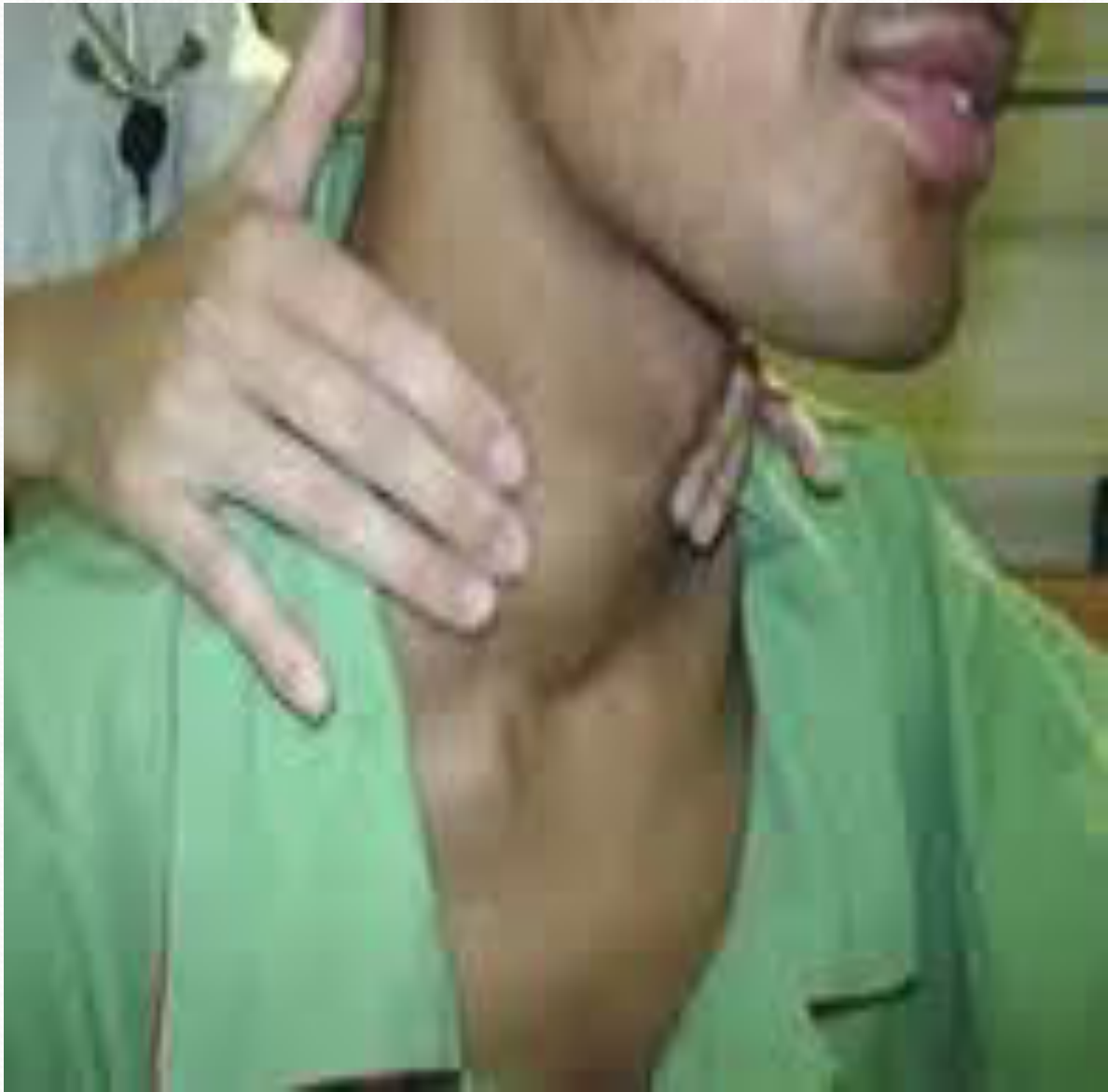
- Surgery is the treatment of choice.
- Injection of sclerosing agents like absolute alcohol and / or steroids may be tried.

D/D

- ***Branchial cleft cyst***
- ***Ranula***
- ***Lymphangoima***
- ***Haemangioma***

Lymph node swelling

- Most common solid neck swelling.



Classification

(Lymph node swelling)

- Inflammatory – Acute non specific lymphadenitis-
  Viral or bacterial.
  Acute specific lymphadenitis-
  Infectious mononucleosis.
  Chronic nonspecific lymphadenitis-
  Adenotonsillitis or orodental sepsis
  Chronic specific lymphadenitis
  like, Tuberculosis, syphilis leprosy etc.

Classification

(Lymph node swelling)

- Neoplastic

  Primary- lymphoma.

  Secondary- metastatic cervical node.

- As part of systemic conditions

  Leukemia.

  Drug reactions

  Histocytosis

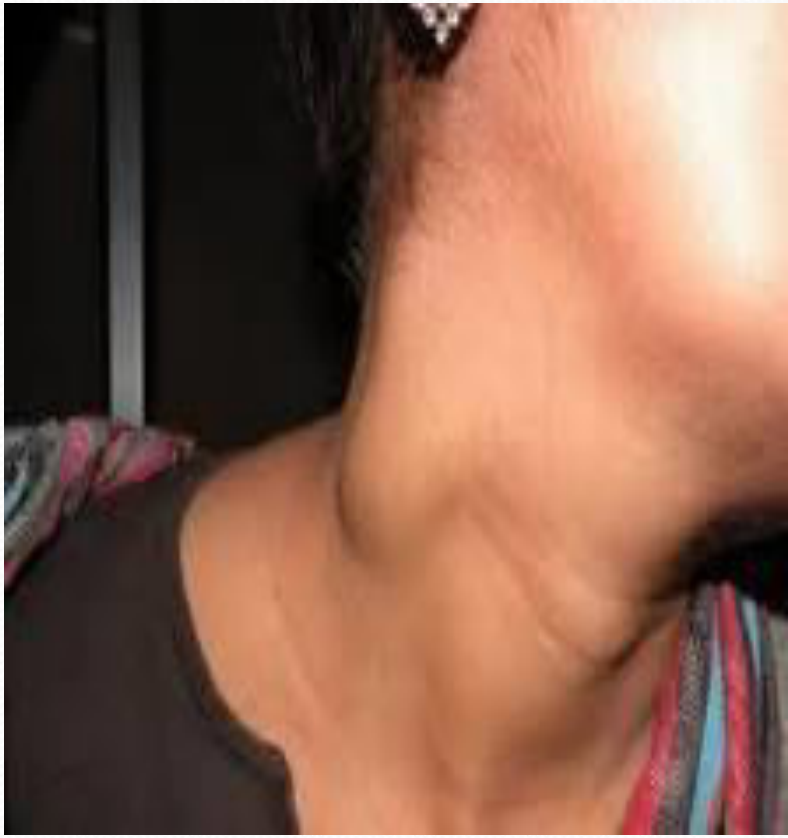
  Epstein-Barr virus (EBV)

  Autoimmune

  Sarcoidosis

Tubercular lymphadenitis

- It is a chronic infection of the lymph nodes due to Mycobacterium tuberculosis and is characterized by presence of matted lymph nodes in the neck.



Pathological stages

- **Stage of adenitis**: the nodes are enlarged but discrete.
- **Stage of periadenitis**: causing matting of the nodes.
- **Stage of cold abscess formation:** this is due to central cassation within the node.
- **Stage of collar-stud abscess formation**: the cold abscess ruptures out of the deep fascia into the subcutaneous plane to give rise to dumb-bell shaped abscess cavity.
- **Stage of tubercular sinus**: the abscess ruptures through the skin causing fistula or sinus with undermined edges.

Tubercular lymphadenitis

Clinical features

- Lateral neck swelling/swellings.
- Often multiple/ bilateral
- Initially painless and gradually increases in size.
- Non-healing discharging ulcer
- Systemic symptoms like evening rise of temperature, night sweats, weight loss etc. may be present.
- Pallor and / or clubbing may be present
- Fever more in the evening may be present.
- Multiple matted nodes that are not freely mobile
- Skin involvement in the form of congestion, edema or ulcer/ sinus may be seen
- Fluctuant abscess may be palpated
- Ulcer if present has characteristic undermining edges

Tubercular lymphadenitis

Investigations

- FNAC
- Biopsy
- Full blood count
- Chest x-ray to rule out pulmonary focus
- Mantoux test

Treatment

- Antitubercular treatment- Ethambutol, rifampicin, isoniazid and pyrizinamide for 9 to 12 months.
- Surgical excision – if residual nodes are present.


Thank
You!