

# Developmental Disturbances -2

(Tongue)

# DEVELOPMENTAL DISTURBANCES OF TONGUE



## MICROGLOSSIA

- It is a rare congenital anomaly manifested by the presence of ***Rudimentary or small tongue***
- The condition when tongue ***being completely absent is known as Aglossia***
- Patient finds difficulties in eating and swallowing

### CLASSIFICATION

**True microglossia**

**Relative microglossia**



# MACROGLOSSIA

- It is a condition when patient have an ***enlarged tongue***
- ***True macroglossia and pseudomacroglossia***
- **Pseudomacroglossia** includes any of the following conditions, which force the tongue to sit in an abnormal position:
  - habitual posturing of the tongue,
  - enlarged tonsils/adenoids,
  - low palate and decreased oral cavity volume displacing tongue,
  - severe mandibular deficiency( retrognathism),
  - neoplasms displacing tongue,
  - hypotonia of the tongue.



- ***True macroglossia can be congenital or acquired***

#### CAUSES FOR CONGENITAL MACROGLOSSIA

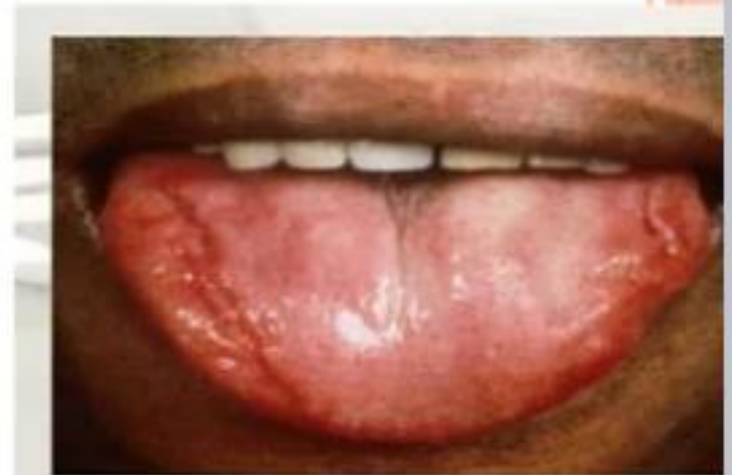
- ***over development of the musculature***
- ***Down syndrome***
- ***Beckwith-Wiedemann syndrome***



## CAUSES FOR ACQUIRED MACROGLOSSIA

*tumors in tongue such as*

- *lymphangioma, hemangioma, neurofibroma*
- **Acromegaly**
- **Myxedema**
- **Amyloidosis**




## TREATMENT

- ***Surgical reduction or trimming*** may be required when macroglossia disturbs the oropharyngeal function.



## ANKYLOGLOSSIA

- It can be defined as a developmental condition characterized by *fixation of tongue to the floor of the mouth, causing restricted movement*
  - It can be either **complete ankyloglossia or partial ankyloglossia (tongue tie)**
  - Complete ankyloglossia occurs as a result of fusion between the tongue and the floor of the mouth
  - Partial ankyloglossia occurs as a result of short lingual frenum or due to a frenum which attaches too near to the tip of the tongue
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## CLINICAL FEATURES

- *speech disorders*
- *deformities in occlusion*
- *Difficulties in swallowing*

## TREATMENT

- Partial ankyloglossia are self corrective
- Complete ankyloglossia can be surgically treated by **frenulectomy**



## CLEFT TONGUE



- ***Complete cleft tongue occurs due to lack of merging of lateral lingual swellings.***
- ***Partial cleft tongue occurs due to incomplete merging and failure of groove obliteration by underlying mesenchymal proliferation***
- partially cleft tongue occurs more common and is manifested as deep groove in the midline of dorsal surface
- food debris and microorganisms collect in base of cleft and cause irritation



## FISSURED TONGUE/ SCROTAL TONGUE



- clinically - ***numerous small grooves on dorsal surface radiating out from central groove along the midline of tongue***
- often extends to the lateral borders of the tongue and form lobules

### ETIOLOGY

- ***It also occurs as a sequel to geographic tongue***
- ***Hereditary factors***



## Clinical Features

- Grooves / furrows – 2-6mm
- Asymptomatic / mild burning sensation rarely
- **Melkerson Rosenthal syndrome-**

triad of fissured tongue, Chelitis granulomatosa (swelling of face & lips), facial paralysis (VII nerve- Bell palsy)

The lesions are usually asymptomatic unless debris is entrapped within the fissure and causes irritation



## MEDIAN RHOMBOID GLOSSITIS

***central papillary atrophy of the tongue /  
posterior lingual papillary atrophy***

- It is an asymptomatic elongated erythematous patch of atrophic mucosa on the mid dorsal surface of the tongue.



## ETIOLOGY

- It has been described as a congenital abnormality of tongue due to failure of tuberculum impar to retract before fusion of lateral halves of tongue so that structure devoid of papillae is interpose between them.
- It is a focal area of susceptibility to chronic infections by candida albicans



## **H/P:**

- atrophic stratified squamous epithelium; occasionally pseudoepitheliomatous hyperplasia, presence of fungal hyphae, loss of papillae, elongated rete ridges and lymphocytic infiltration.

## **TREATMENT**

***antifungal agents-amphotericin B or nystatin***



# BENIGN MIGRATORY GLOSSITIS

*Geographic tongue, erythema migrans, wandering rash of tongue*

## ETIOLOGY

- The exact etiology remains unknown.
- It may be **genetic**.
- However many believe that **emotional stress** may precipitate this condition



## CLINICAL FEATURES

- The lesion occurs in about 1 to 3 % of population
- Females are affected more frequently than males by a 2:1 ratio
- ***seen on the anterior two third of the dorsal tongue mucosa***

characterized by ***multiple, well demarcated, erythematous, depapillated patches, typically surrounded by a slightly elevated yellow white scalloped border*** and usually restricted to the dorsum of the tongue.



## **H/P:**

- hyperparakeratosis, spongiosis, acanthosis, elongated rete ridges
- Red areas- keratin desquamated, neutrophils and lymphocytes in epithelium
- Monro's abscess (micro abscess in the keratin and spinous layer)

## **TREATMENT**

- no specific treatment
- heavy doses of vitamins and topical steroids



# HAIRY TONGUE

## ***BLACK HAIRY TONGUE, LINGUA NIGRA, LINGUA VILLOSA***

- characterized by marked accumulation of ***keratin on filiform papillae*** of the dorsal surface resulting in a ***hair like appearance***





## CLINICAL FEATURES

- formation of a pigmented thick matted layer on the tongue surface, heavily coated with bacteria and fungi
- ***Hair like appearance***
- **Halitosis**
- **Irritation of tongue due to accumulation of food debris**
- *Candidal over growth may cause **glossopyrosis ( burning tongue)***



## LINGUAL VARICES

- It is a dilated , tortuous vein which is often subjected to increased hydrostatic pressure but is poorly supported by surrounding tissue



## CLINICAL FEATURES

- Varices usually involves the lingual *ranine viens*
- involved veins appear **red or purple shotlike clusters of vessels** on the ventral surface and lateral borders of tongue as well as in the floor of the mouth
- Presence of lingual varices before the ages of 50 indicates premature ageing

## Treatment

- *no specific treatment*



Fig. 1. Clinical photograph of a violaceous nodule on the right side of the tongue.

# LINGUAL THYROID NODULE

follicles of thyroid tissue are found in the substance of the tongue.

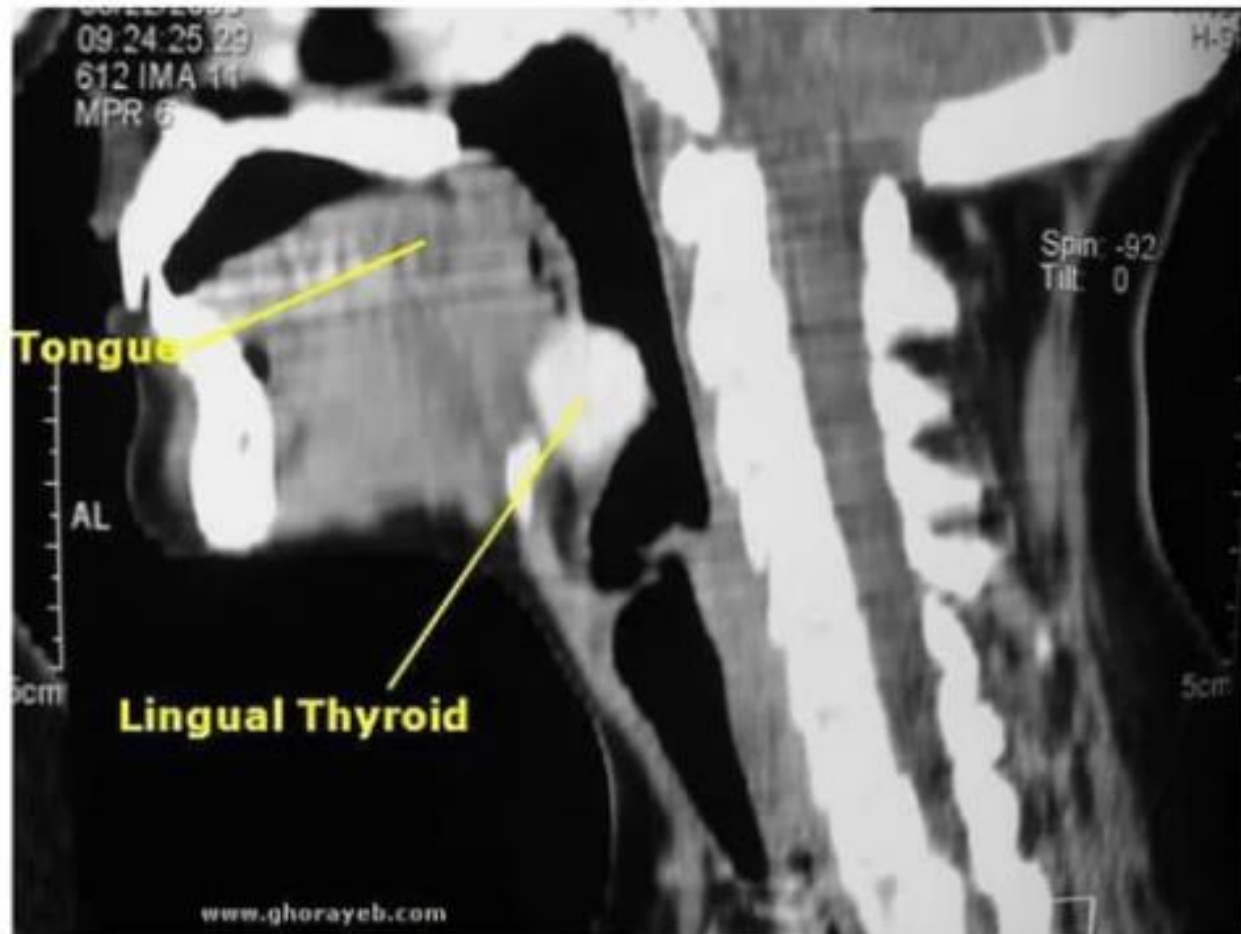


## ETIOLOGY

- It occurs when thyroid **anlage** that failed to migrate to its predestined position or from **anlage** remnants that became detached and were left behind.
- (the rudimentary basis of a particular organ or other part, especially in an embryo.)



Sagittal reconstruction of CT scan of the neck, showing the lingual thyroid at the base of the tongue.



## HISTOPATHOLOGY

- Lingual thyroid nodule consist of normal mature thyroid tissue
- Occasionally thyroid nodules may exhibit colloid degeneration

## DIFFERENTIAL DIAGNOSIS

- ***Thyroglossal tract cyst***
- ***Neoplasms***

## TREATMENT

- ***Surgical excision***
  - ***Suppressive therapy - supplemental thyroid hormone can reduce the size of the lesion***
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