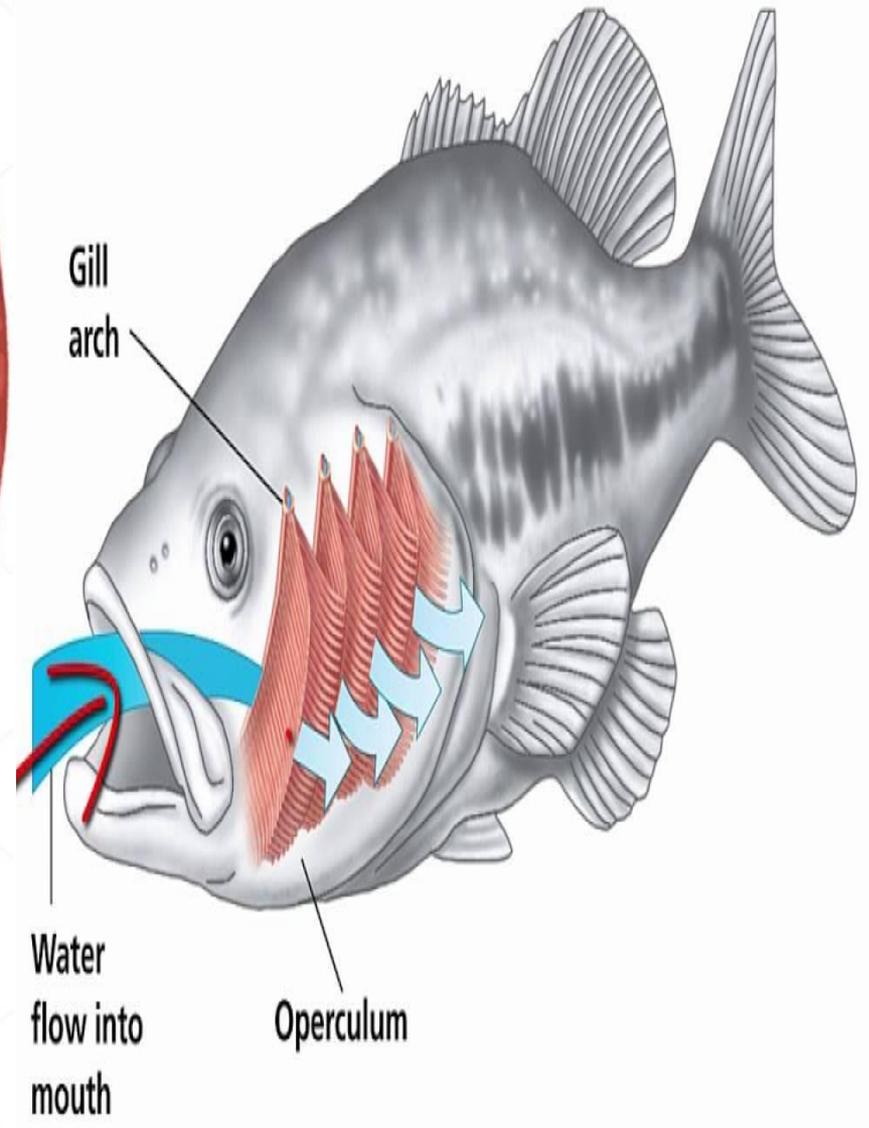
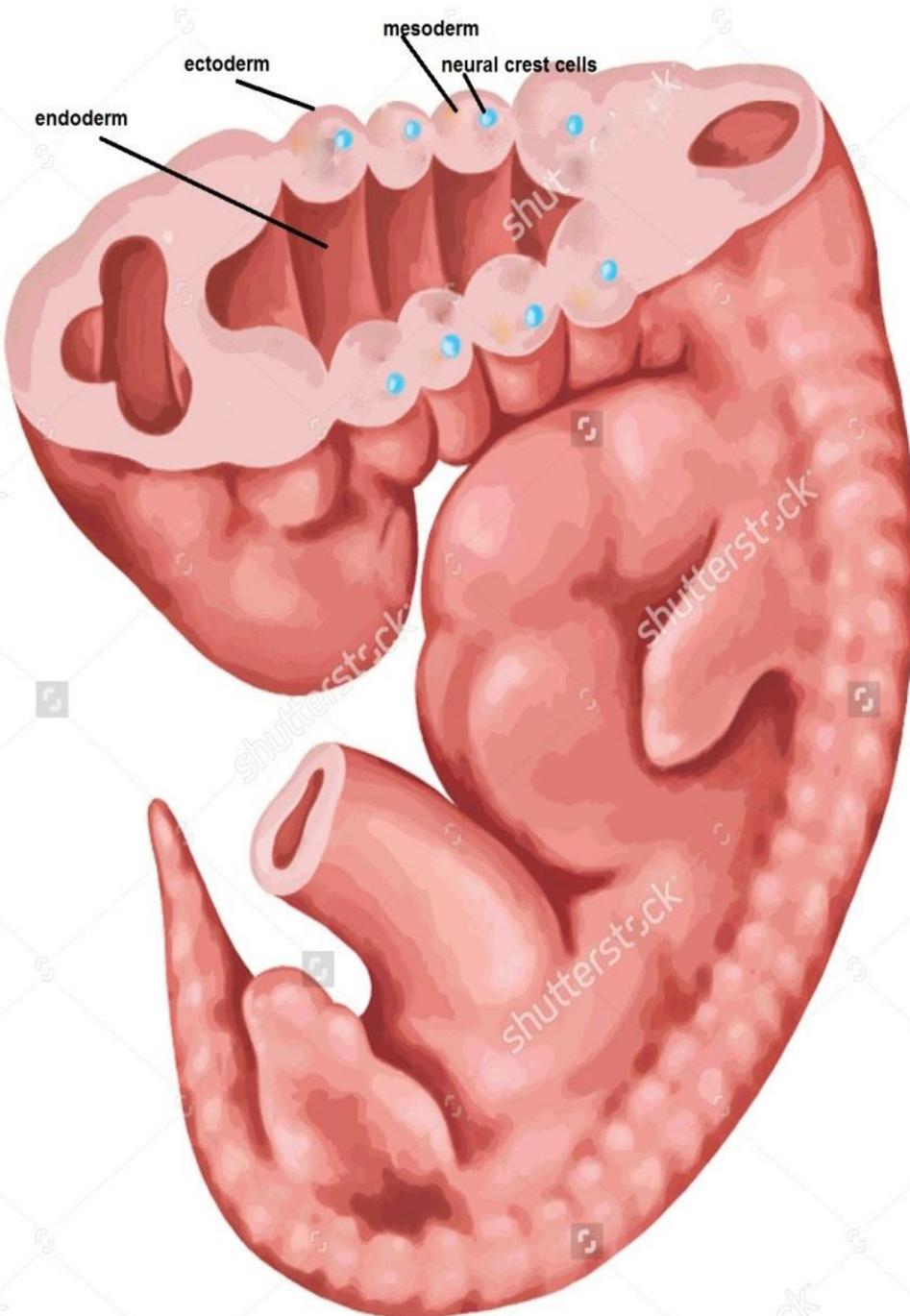


# PHARYNGEAL APPARATUS 2



BY

DR ABULMAATY MOHAMED  
ASSISTANT PROFESSOR  
ANATOMY & EMBRYOLOGY  
MUTAH UNIVERSITY



# PHARYNGEAL CLEFTS

## Derivatives

### 1st pharyngeal cleft

form external auditory canal

Outer layer of the tympanic membrane

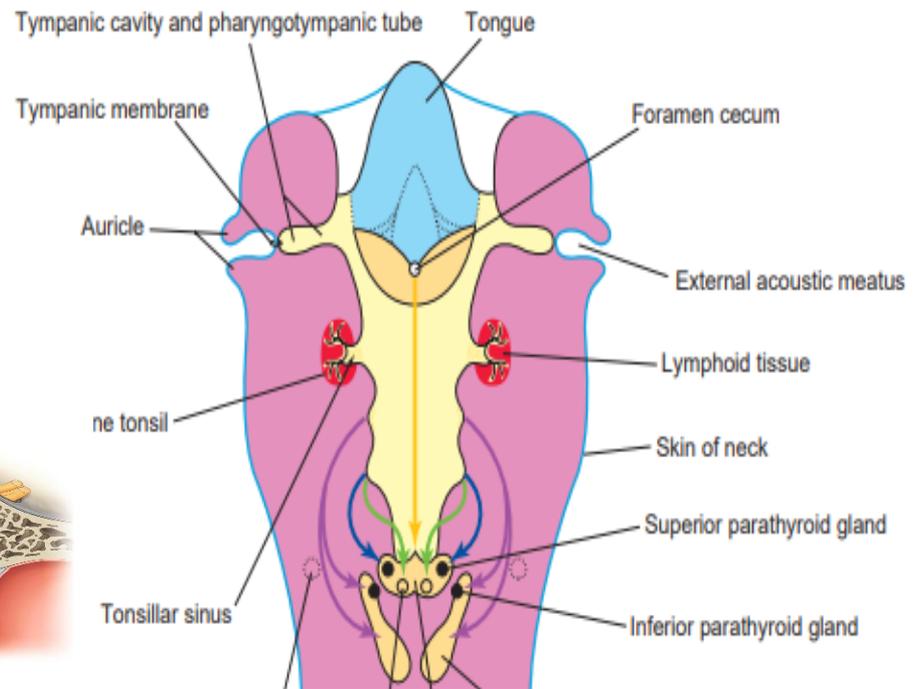
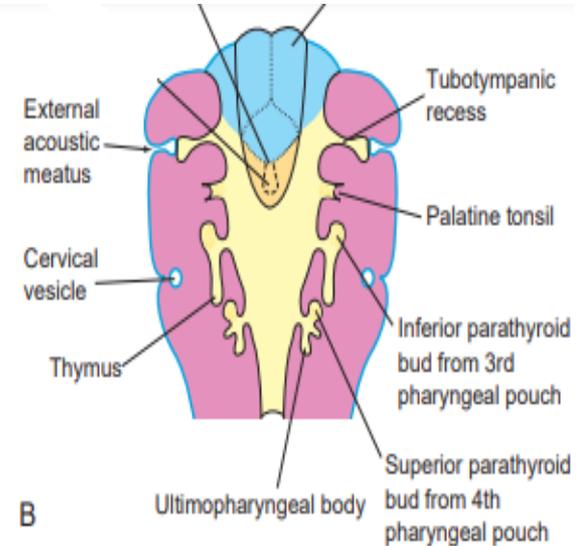
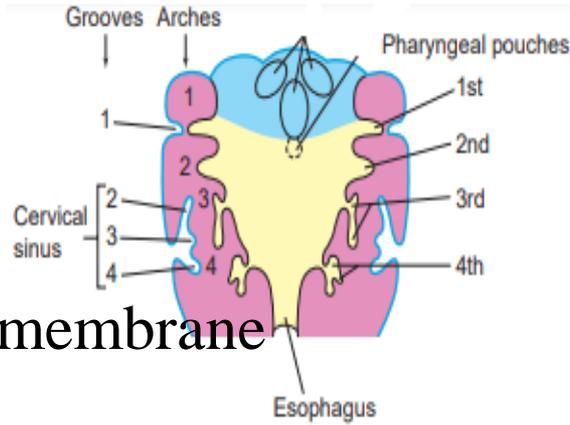
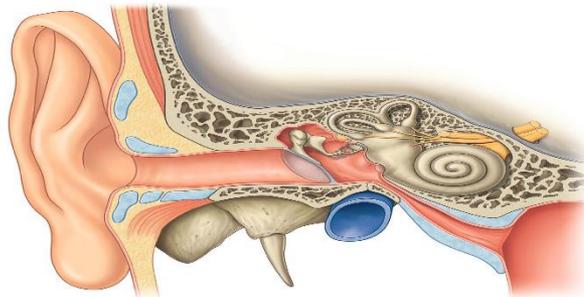
### remaining clefts:

lie in floor of cervical sinus &

are roofed by caudal extension of 2nd pharyngeal arch (platysma)

the sinus is obliterated by

opposition of roof & floor



# PHARYNGEAL POUCHES

## Derivatives

### 1st pharyngeal pouch:

form tubotympanic recess

that gives

auditory tube

tympanic cavity &

Inner layer of the Tympanic membrane

### 2nd pharyngeal pouch:

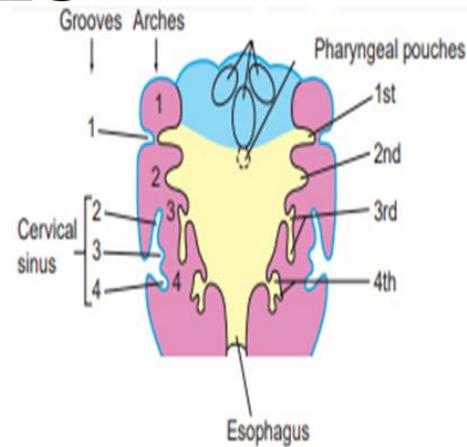
palatine tonsil:

endoderm proliferate

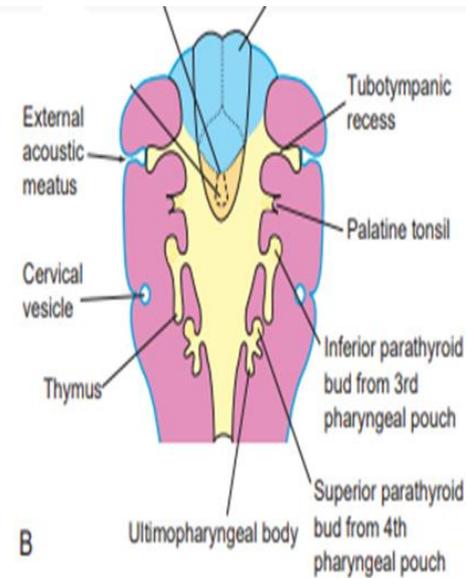
Forming buds that canalize

Forming crypts that infiltrated

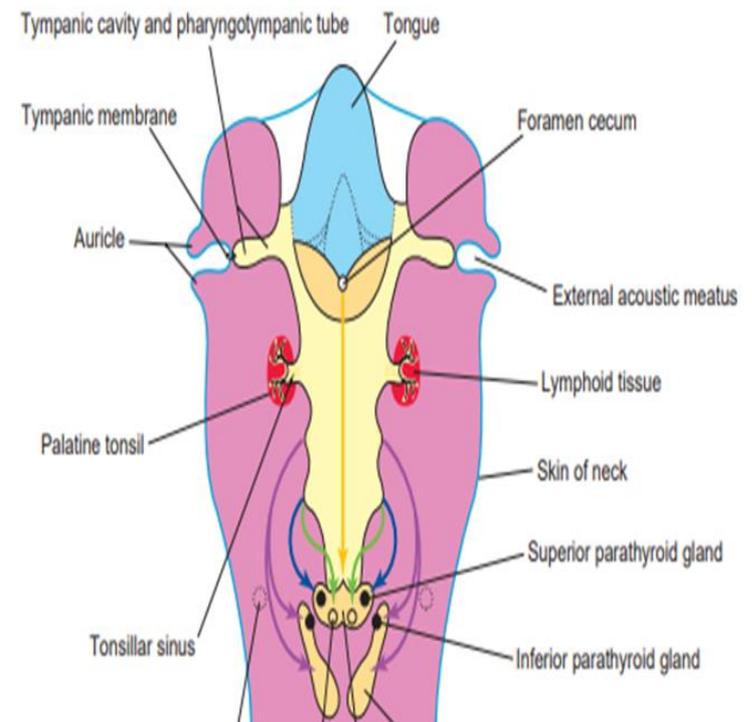
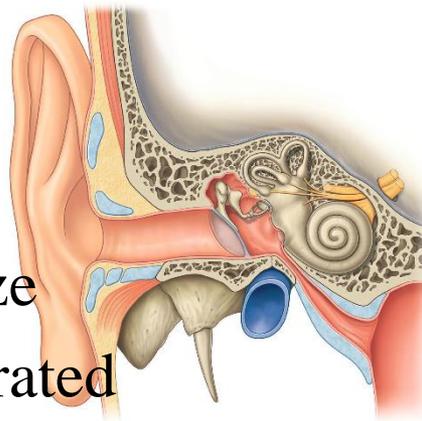
by lymphatic cells



A



B



# PHARYNGEAL POUCHES

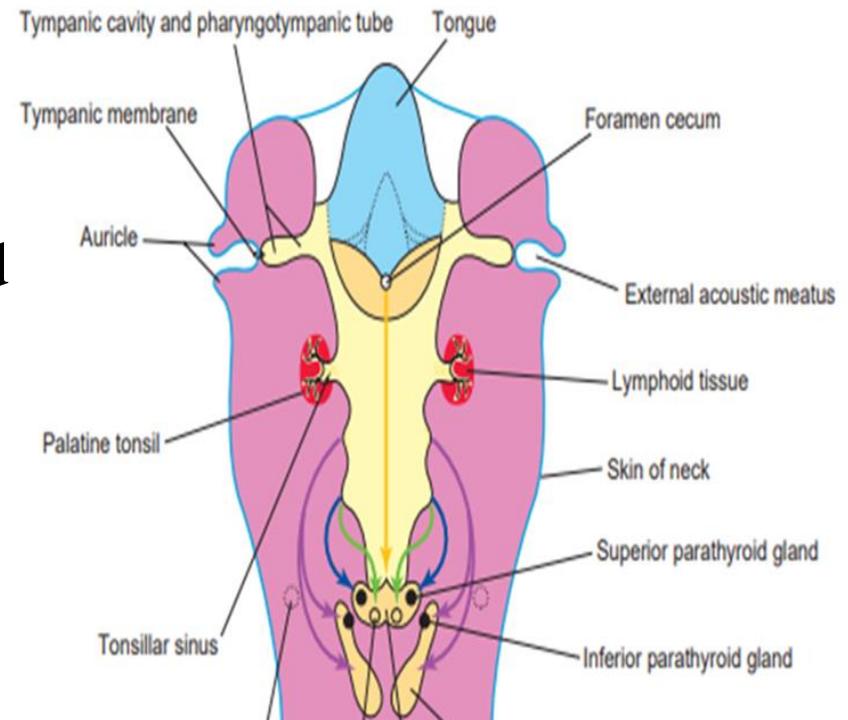
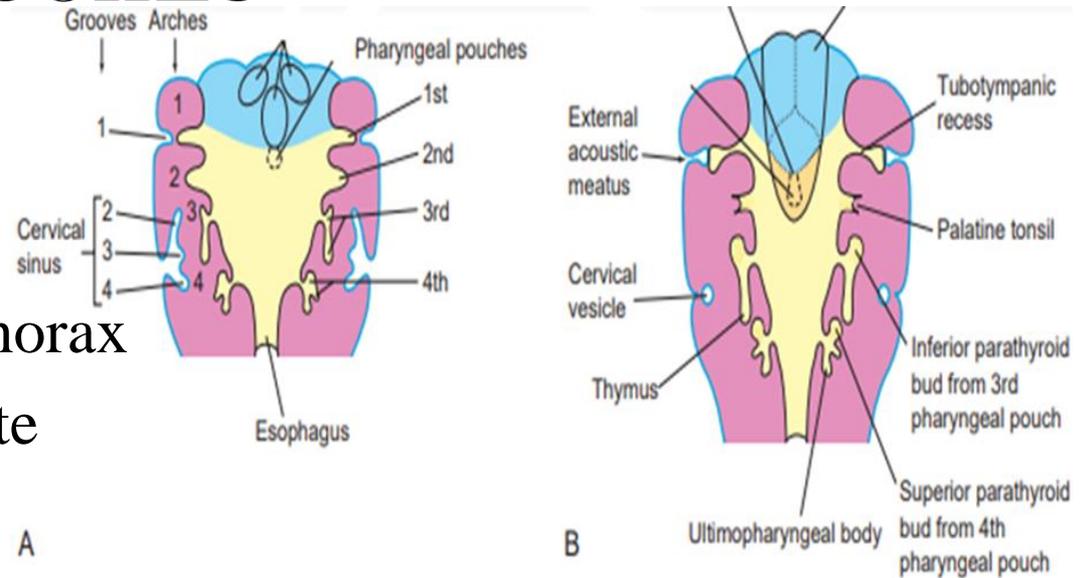
## Derivatives

### 3rd pharyngeal pouch:

Endoderm proliferate to form thymus gland that migrate to thorax  
inferior parathyroid that migrate behind the thyroid gland

### 4th pharyngeal pouch:

Endoderm proliferate to form **superior parathyroid** that migrate behind the thyroid gland  
**caudal part of 4th pouch**  
**ultimo branchial body** that migrate to thyroid gland forming its parafollicular cells



# CONGENITAL ANOMALIES

1-ectopic thymus or parathyroid:

due to arrest during migration

As thymus in the neck

Inferior parathyroid at bifurcation of CCA

# CONGENITAL ANOMALIES

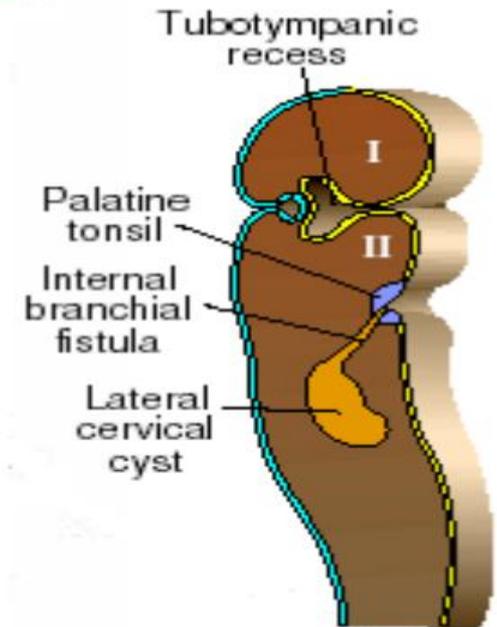
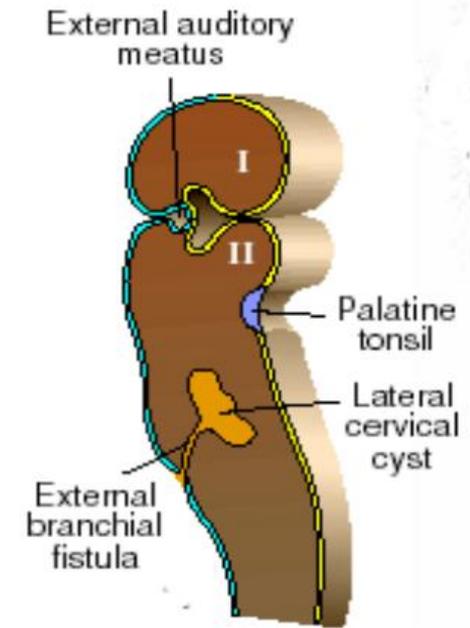
## 2-branchial fistulae:

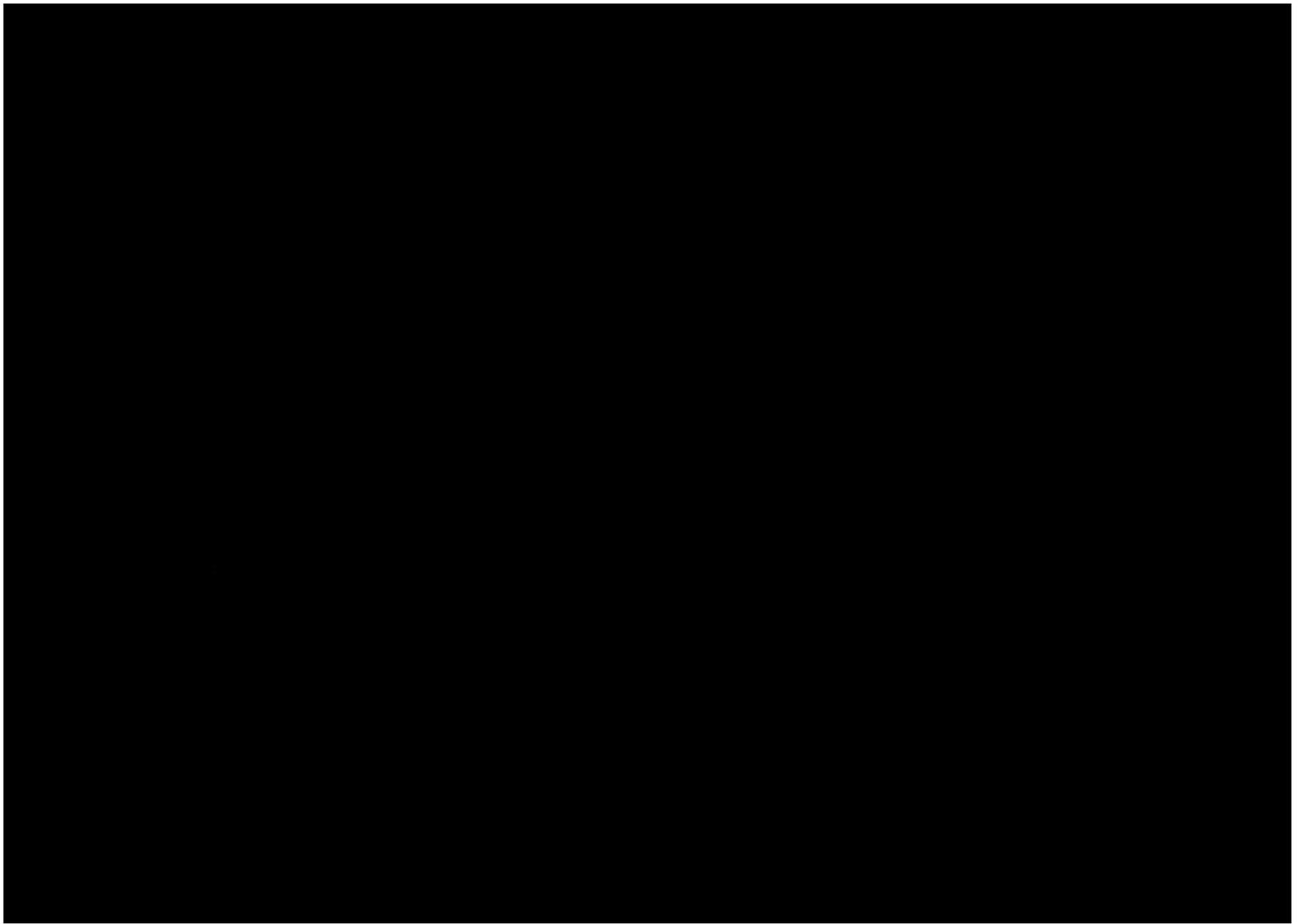
### external:

- failure of caudal growth of 2nd arch
- the remnants of cleft open on surface by narrow duct
- along ant. border of sternomastoid

### internal:

- persistence of cervical sinus forming branchial cyst
- membrane ( ) 2nd cleft & pouch degenerate
- branchial cyst open on pharynx by fistula above tonsil





THANQ