

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Labyrinthitis

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## **A- Infective types:**

- Bacterial L : (a) purulent  
(b) paralabyrinthitis
- Viral .L : Syphilitic.L
- ,Protozoal.L                      Fungal.L

## **B- Non infective types:**

Toxic L , Autoimmune L  
labyrinthitis ossificans

# **Purulent (Suppurative) labyrinthitis:**

- Etiology :**
- Tympanogenic
  - Meningogenic
  - Systemic infections  
or Septicemia

# Tympanogenic .L

## Organisms :

Beta-hemolytic ,  
streptococcus

Pneumococcus , Haemophilus

Proteus , Pseudomonas ,

Staphylococcus

# Meningogenic .L

The incidence of postmeningitic deafness ranges from as low 3% to as high as 25 %.

## Organism :

Haemophilus Influenza ,  
Streptococcus Pneumoniae

# Hematogenous . L

Septic emboli → Obstruct  
terminal labyrinthine arteries  
→ Ischemia as well as a direct  
inflammatory reaction .

# ■ Pathogenesis :

inner ear reaction:

Producing specific ab.

mobilizing inflammatory

cell to the infected site .

forming a richly fibrinous

exudate .



Eventually, the inner ear attempts to contain the pyogenic infection by fibroblastic proliferation by formation of granulation tissue and ultimately by genesis of fibrous tissue within the inner ear .

# Pathology :

1- serous stage-

(Serofibrinous or irritative )

Production of serofibrinous  
exudate rich in specific  
immunoglobulins .

## **2- Purulent stage (acute or manifest)**

**Intra and extra cellular bacteria and leukocytes fills the perilymphatic space increased protein content vasodilatation – thrombosis or extravasation of modiolar blood vessels severe degenerative and necrotic changes of the end-organs .**

## **3- Fibrous stage** **(chronic,latent,healing)**

**Fibroblastic proliferation .This stage may begin 2 weeks after the onset of infection .**

## 4- Osseous stage

(healed – compensated – fibroosseous – sclerotic or Labyrinthitis ossificans) bone forms several months after acute Labyrinthitis .

**Clinical Picture : serous stage**  
**Variable degree of cochlear deafness**  
**sever vertigo - Nausea - Vomiting**

There is nystagmus beating toward the affected ear until generalized suppuration and destruction of the labyrinth take place, at which time it reverses toward the normal ear. Reversal usually takes place within the first day.

## **Purulent (manifest stage )**

The patient is violently ill, with profound hearing loss , in incapacitating vertigo , nausea , vomiting .



**Spontaneous nystagmus toward the unaffected ear tends to fall to the affected side-past points to the same side .**

Patient usually lies quietly with the eyes closed , typically lying curled in bed with the affected ear upper most. Fever .

**The diagnosis is made clinically.**

**Caloric investigation is contraindicated .**

**Fibrous (chronic or latent)**

**Stage :**

Labyrinth has been

Completely destroyed

deafness is complete .

## Healed (osseous) stage :

Complete ossification occurs in the membranous labyrinth . only findings being loss of auditory and vestibular functions as determined by hearing and caloric testing . Occasionally , positional dizziness persists in some patients for some months .

Treatment

Treatment

Control of labyrinthine infection  
Heavy doses of intravenous

**Penicillin**

**Sulfadiazine**

# ■ Control of source of infection

- Meningitis
- Acute otitis media
- Chronic otitis media



The main indication for draining the labyrinth is the emergence of meningeal manifestations despite adequate antibiotic therapy and adequate clearance of the cleft by excisive surgery .



Question ?

**The End**

