EAR TRUMA

5TH class

- **"trauma of the external ear"**
  Causes:
  1- Accidental
  2- Sport
  3- Child abuse
  4- Burn
  5- Cold injury

Treatment:

- Simple laceration: closed under aseptic technique using skin to skin suturing.
- For total amputation treated by: Microsurgical reimplantation heparinization with frequent stab wound to reduce venous pressure.
- Hematoma of auricle: extravasations of blood between cartilage and pericondirum result in soft doughy swelling of pinna, treated by incision along the margin of helix, evacuation of blood followed by application of sialastic sheet on both surface of pinna by transfixation sutures.
- For first and second degree burn treated by regular application of topical AB.
- For third degree burn treated debridement and later reconstruction
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Trauma to the tympanic Membrane

Causes:

1. Air pressure: which are usually rapid change in pressure (include blow with open hand, fall in water and blast injury.
2. Fluid: ear syringing.
3. Solid object: accidental or trial to remove F.B

Complications:

1. Conductive deafness.
2. Secondary infection.
3. Inner ear damage.

Treatment:

- Most effective management to do nothing, no water entry.
- Active approach is by examination under microscopic with evertion of the edge under aseptic condition, even subtotal perforation heal with excellent result.
- If perforation fails to heal spontaneously 3-6 month → surgical closure.

a. Blast injury:

- Consist of sharp and short lived pressure phase of few minutes and longer less marked negative pressure of tense of min. the amount of energy equal in both.
- Blast injury can cause middle ear damage, ranging from hyperemia of TM, sub epithelial bleeding in TM and TM perforation mainly in the pars tense, it's usually caused by positive pressure and heal spont in 83%.
- Blast injury to inner ear:
  Tinnitus plus SNHL
  In mild to moderate cases and no Rx.
  In severe cases → vasodilator,
  Steroid and anticoagulant.

b. Radiation trauma: caused by radiation to ear and nasophx:
   1. Otitis media with effusion.
   2. Osteo radio necrosis.
   3. SNHL.

c. Surgical trauma:
   1. Corda tympani: tympanoplasty or stapedctomymay cause stretching and even cut→ usually abnormal metallic test described.

2. To facial N: good knowledge of anatomy and land mark of FN is important to prevent injury treated by greater auricular nerve graft after 3 wks.

d. To labyrinth:
   - Contact 1.1 tooth rotating burred and part of intact ossicular chain.
   - Excessive move of footplate.
   - Removal of cholesteatoma or GT from labyrinth fistula over Lat. Scc.
   - Removal of cholesteatoma or GT from oval window with # of stapes footplate → SNHL.

"Temporal bone fractures"

1. Longitudinal #:
   - 80% of cases.
   - Result from blow to temporal region
   - # Lines runs along axis of temporal bone starting from sq.part of temporal bone passing over external and middle ear, reach the petro us temporal bone, end near foramen spinosum or lacernum.

   a. Bleeding from the ear due to damage to skin + TM → CD.
   b. SNHL → Rare.
   c. FN palsy → rare.
   d. X-ray → -ve

2. Transverse # of temporal bone
   - 20% of cases.
   - Due to blow → frontal or occipital.
   - # Line along the transverse axis of petro us pyramid the vestibule of inner ear.

   a. Hemo. Tympanum, usually intact TM .
   b. SNHL, vertigo, Nystagmus, vomiting.
   c. FN palsy → 50% of immediate.
   d. X-ray → +ve in 50%.

Management:

It's important to leave blood clots in GAC to avoid introduction of infection to middle ear:

- CSF leak: trial of conservative Rx. AB, drugs ↓CSF, spinal drain→. If no response after 2 wks → surgery.
- For meatal damage: tear may heal with fibrous band need to remove to prevent collection of debris.
- For deafness:
  - CD → due to TM perforation.
  - CD → ossicular chain dislocation.
  - SNHL → after long # → inner ear concussion.
  - SNHL → after transverse→ permanent.
- For facial → palsy:
  - Immediate → need surg. "Repair".
  - Delayed → conservative Rx.
- For vertigo:
  - Post concussion: unsteadiness, especially getting up from sitting position 6-12 month.
  - Destructive labyrinth lesion:
    Sever vertigo need vestibulo sedative.
  - BPPV: short lived stimulated by the movement of the head especially affected ear → vestibulo-sedative.