

Diseases of the middle ear cleft

- Injuries

1. Foreign bodies : f .b. in the middle ear causes :

- i. Rupture of tympanic membrane.
- ii. Inj. to underlying ossicular chain matchsticks, hairpin, and syringe nozzles are frequently concerned as are attempts to remove such smooth, round objects as bead or ball bar

2. Traumatic rupture of tympanic membrane :

Aetiology

- Perforation by F.B or unskilled instrumentation or syringing.
- Sudden air compression.
- Sudden fluid compression.
- Inflation of Eustachian tube.
- Fracture base of skull.

Clinical picture:

Pain may be severe at time of rupture but after is slight.

Deafness minimal with small perforation and more with large perforation.

Tinnitus and vertigo usually transient .

Signs : irregular red margin perforation with blood in the external meatus.

Rx 1. Remove foreign material.

- 2. Leave blood clot in situ for 10 days
- 3. Never syringe or the water reach the ear.
- 4. Use prophylactic AB.
- 5. Myringoplasty used if perforation not health after 3 months.

3. Fracture of temporal bone

Types :

(1) Longitudinal # (common 80%)

The # line is in long axis of petrus bone and involves the tympanic membrane , tympanic cavity and bony ext. aud. Canal.

c.p

1. deafness is conductive and usually recover .
2. bleeding from meatal skin or rupture tympanic membrane. If the # not reach tympanic memb. Can cause blood behind TM (haemotympanum)
3. bony deformity in the deep meatus.
4. facial n. paralysis less common.
5. csf otorrhoea rare for short duration.

(2) Transverse # (less common 20%)

The # line runs at right angle to the axis of petrus bone.

c.p:

(i) Deafness : sensorineural type and usually permanent.

(ii) vertigo and nystagmus usually present till compensation occur.

(iii) haemotympanum usually present.

(vi) facial paralysis not uncommon

It is usually recover spontaneously when due to mild compression and it is poor prognosis & severe for immediate paralysis.

(3) Fracture of bony meatus

Result from indirect injury as from blow on the chin , the anterior bony wall of meatus after displaced posterosuperiorly and cause severe pain in the ear.

Diagnosis of patients with # temporal bone

A. Bleeding from the ear following a head inj.

Indicates presence of a# until prove otherwise.

B. Plain x-ray is often insufficient to see # line.

C. Ct-scan is useful.

D. Electromyography use to confirming the continuity of facial n. in case of paralysis.

- Rx (1) treatment of head inj.
- (2) in traumatic perforation of tymp. Memb. Non interference.
- (3) # of bony meatus with displacement need reduction.
- (4) immediate and complete facial paralysis surgical exploration of the n. indicated.
- (5) when the # at site of active csom need systemic AB and mastoid surgery if indicated.

Traumatic disconnection of the ossicular chain

Aetiology :

1. head injury direct or indirect with or without # temporal bone.
2. surgery of tymp. Cavity or mastoid.
3. F.B perforating TM.

Pathology :

1. separation of incudostapedial jt. Is the common type.
2. # of both stapedial crura.
3. dislocation of stapedial footplate from oval window lead to SN deafness if not R immediately.

Diagnosis:

1. conductive deafness persist in the presence of normal TM and history of head injury.
2. PTA show air/bone gap more than 45 dB

3.ct show the disconnection, but confirmed by exploratory Tympanometry

R positioning of long process of incus to stapedial head or footplate .

Barotraumatic otitis media

It is non infective inflammatory reaction produced in the lining of middle ear cleft when the air pressure within it below that of atmosphere i.e.(-ve intratympanic pressure).

Aetiology :

- 1.eustachian tube dysfunction due to oedema of the tube or excessive lymphoid tissue near its opening.
- 2.when the pressure difference between tympanic cavity and outside more than 80 mmhg (critical pressure diff.)lead to locking of Eustachian tube that occur during rapid descent aircraft.

Pathology:

1. decreased intratympanic pressure lead to retracted TM= vascular engorgement of mucosa lead to oedema , ecchymoses and transudation of serum inside middle ear cleft when it is occur suddenly TM may be ruptured.

Clinical picture:

1.ear discomfort with sensation of fluid in the ear , same time pain usually cleared after hrs'.

2.deafness, tinnitus for several days.

3.sometimes vertigo.

Otoscopy show =Redding of TM

=fluid in the middle ear.

=sometimes haemotympanum

=or perforation of TM

Treatment :

1.unlocking by decompression chamber.

2.auto-inflation.

3.Eustachian tube catheterization.

4.myringotomy if fluid is present.

5.proper AB used.