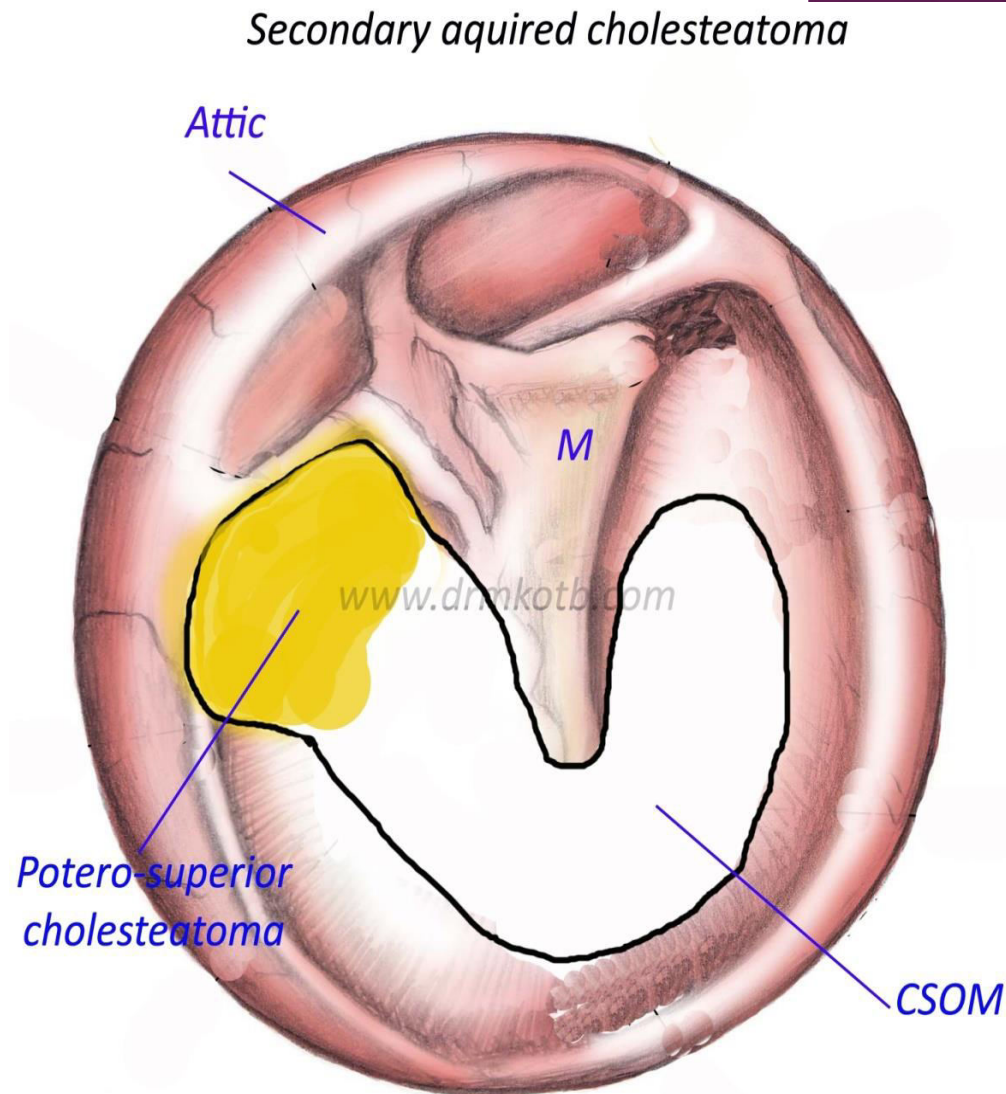


TO DAY'S TOPIC-

Attico antral type of CSOM & Cholesteatoma



ATTICOANTRAL CSOM

UNSAFE TYPE OF CHRONIC
SUPPURATIVE OTITIS MEDIA



MINISTRY OF HEALTH
GOVERNMENT OF INDIA

CHOLESTEATOMA

Definition: It is a bag or sac lined externally by stratified squamous epithelium and internally by fibrous tissue containing concentric layers of keratin, desquamated epithelium, few debris and bacteria.

The term cholesteatoma is a misnomer, because it neither contains cholesterol crystals nor it is a tumor.

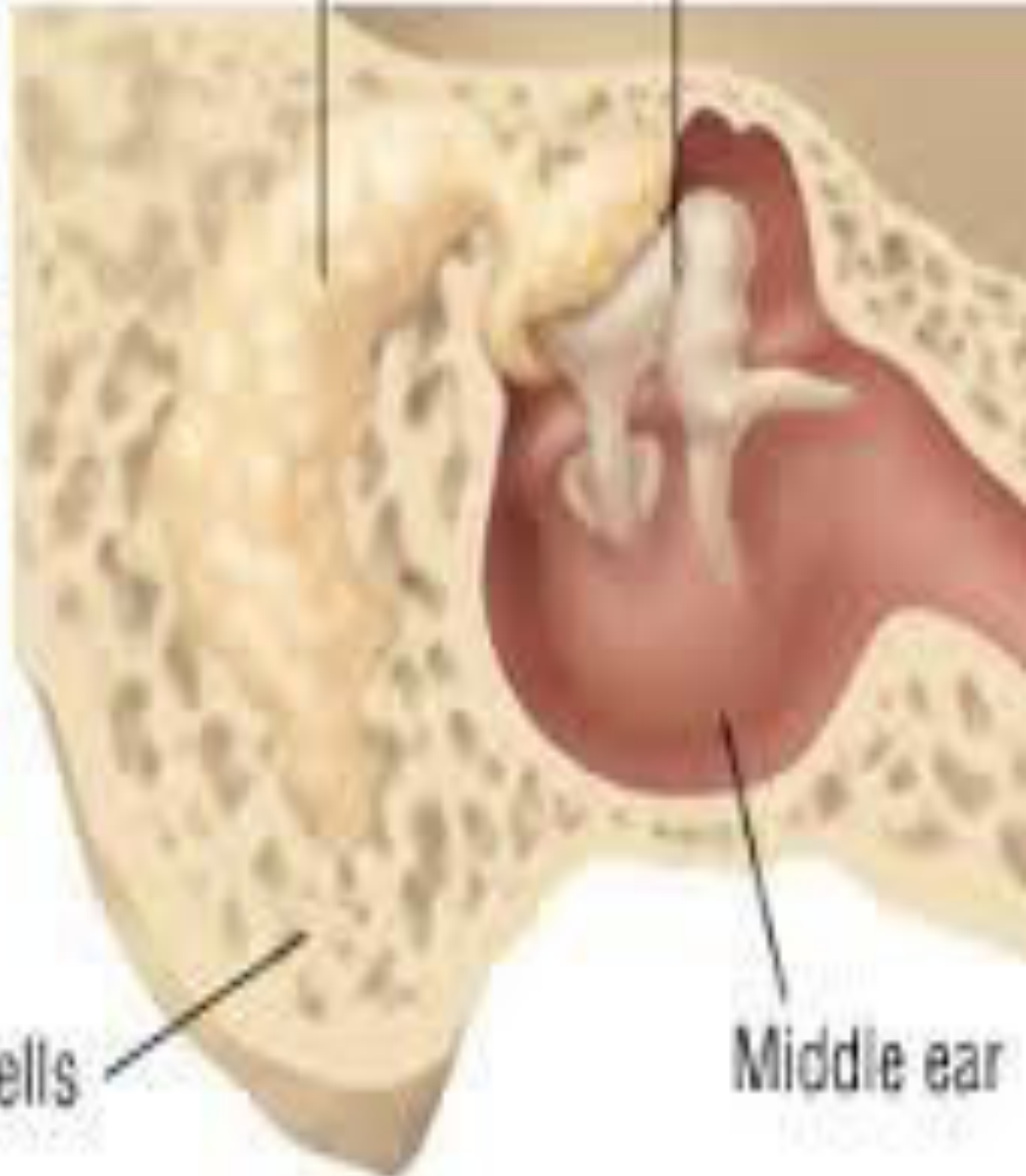
Cholesteatoma

Ossicles



Mastoid bone

Mastoid air cells



Middle ear

THEORIES OF CHOLESTEATOMA FORMATION

1. Presence of congenital cell rests.
2. Invagination of TM from the attic or posterosuperior part of pars tensa in the form of retraction pockets.
3. Epithelial invasion.
4. Metaplasia- Middle ear mucosa undergoes metaplasia due to repeated infections and transforms into squamous epithelium.
5. Basal cell hyperplasia.

CLASSIFICATION (CONT.)

1. Congenital-
2. Acquired- primary
Secondary

CHOLESTEATOMA

1. Congenital cholesteatoma:

- Arises from the embryonic epidermal cell rests in the middle ear cleft or temporal bone.
- Congenital cholesteatoma occurs at three important sites, middle ear, petrous apex and the cerebellopontine angle.

CHOLESTEATOMA

2. Primary acquired cholesteatoma:

- a) **Invagination of pars flaccida:** persistent negative pressure in the attic causes a retraction pocket which accumulates keratin debris.
- b) **Basal cell hyperplasia:** there is proliferation of the basal layer of pars flaccida induced by subclinical childhood infection.
- c) **Squamous metaplasia:** normal epithelium of attic undergoes metaplasia, keratinising squamous epithelium due to subclinical infections.

CHOLESTEATOMA

3. Secondary acquired cholesteatoma:

a) Migration of the squamous epithelium.

keratinising squamous epithelium of ext canal or outer surface of TM migrates through the perforation into the middle ear

b) Metaplasia.

Middle ear mucosa undergoes metaplasia due to repeated infection of middle ear through the pre existing perforation.



CHOLESTEOATOMA

- ❖ Once cholesteatoma enters the middle ear cleft, it invades the surrounding structures, (the path of least resistance) and then by enzymatic bone destruction.
- ❖ An attic cholesteatoma may extend backwards into the aditus, antrum and mastoid, downwards into the mesotympanum, medially it may surround the incus and / or head of malleus.



CHOLESTEOTOMA (CONT.)

- ❖ Cholesteatoma has the property to destroy bone, it may cause destruction of ear ossicles, erosion of bony labyrinth, canal of facial nerve, sinus plate or tegmen tympani and thus cause severe complications.
- ❖ Bone destruction by cholesteatoma has been attributed to various enzymes such as collagenase, acid phosphatase and proteolytic enzymes, liberated by osteoclasts and mononuclear inflammatory cells

ATICO ANTRAL TYPE OF CSOM

- ◉ It involves posterosuperior part of middle ear cleft.
- ◉ Is associated with cholesteatoma, which because of its bone eroding properties , causes risk of serious complications.
- ◉ The disease is also called unsafe or dangerous type.

AETIOLOGY

- Same as tubotympanic type

PATHOLOGY

Atticoantral disease is associated with the following pathological processes;

1. Cholesteatoma.
2. Osteitis and granulation tissue= a fleshy red polypus mass may be seen in the meatus.



PATHOLOGY (CONT.)

3. **Ossicular necrosis:** is common in A A disease. Destruction may be limited to the long process of incus or may also involve stapes suprastructure, handle of malleus or entire ossicular chain. Therefore, hearing loss is always greater than in disease of TT type.
4. **Cholesterol granuloma:** is a mass of granulation tissue with foreign body giant cells surrounding the cholesterol crystals.

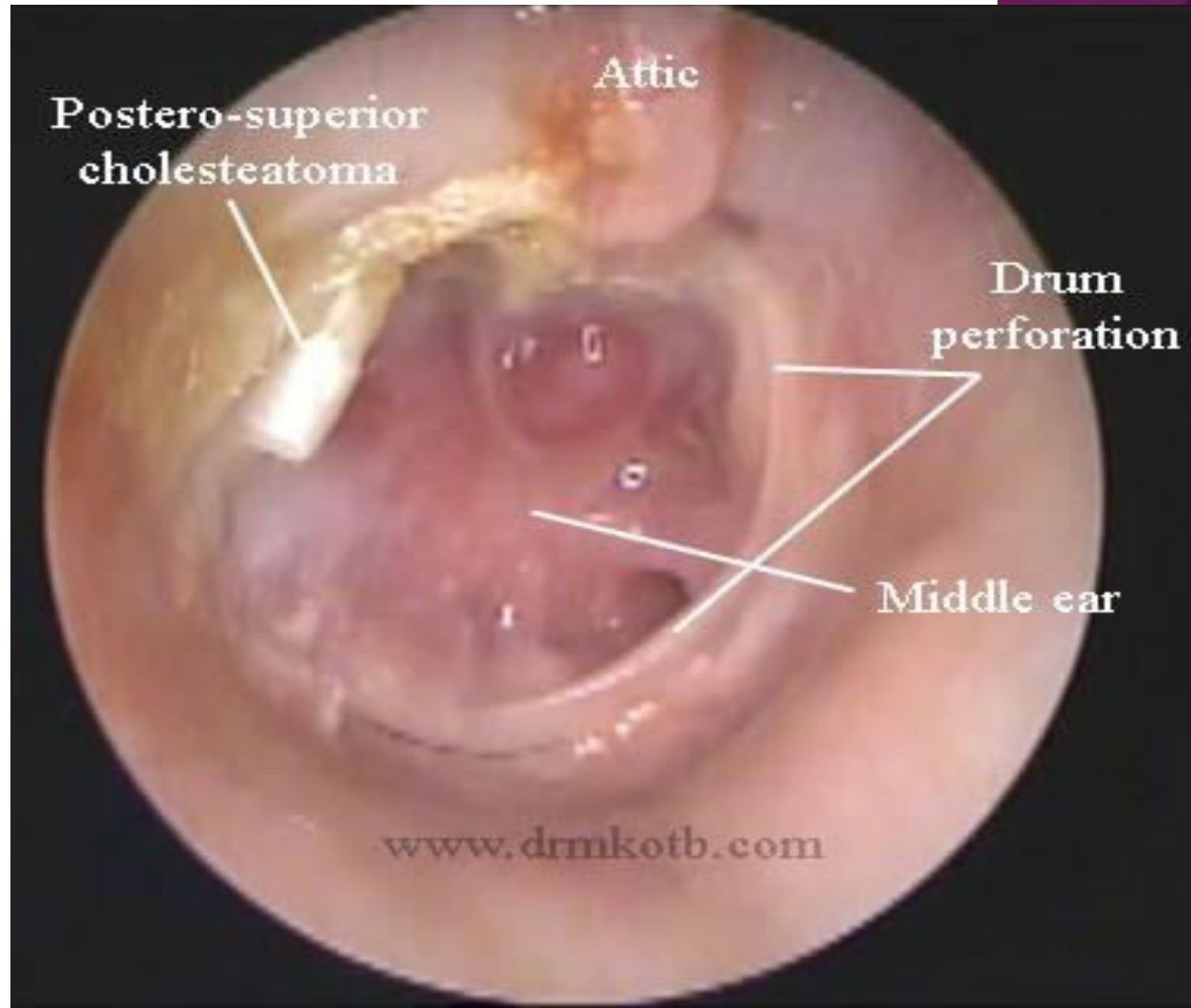
CLINICAL FEATURES (A A TYPE)

1. **Ear discharge:** usually scanty, but always foul smelling due to bone destruction.
2. **Hearing loss:** hearing loss is mostly conductive but sensory neural element may be added.
3. **Bleeding:** may occur from granulations or the polyp when cleaning the ear.

A A TYPE OF CSOM

FINDINGS:

1. **Perforation:**
either attic or posterosuperior marginal type.

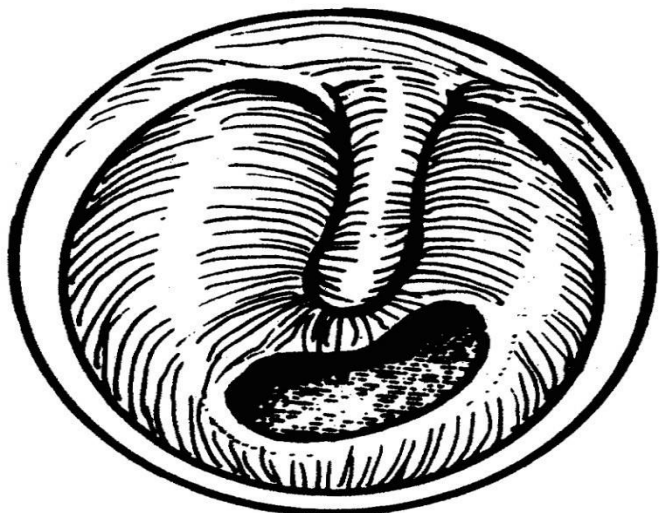


2. **Retracted pocket:** an invagination of TM is seen in the attic or posterosuperior area of pars tensa. Degree of retraction and invagination varies.
- 3 **Cholesteatoma:** pearly white flakes of cholesteatoma is seen.

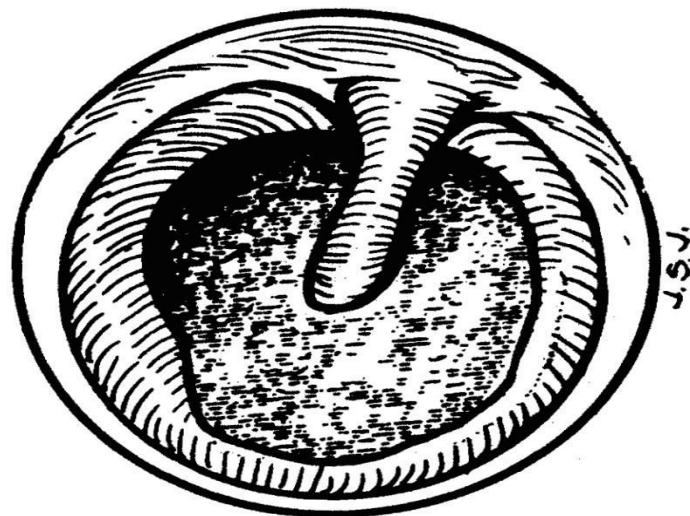
**Attic Retraction Pocket
with Cholesteatoma
Formation**

Ear Drum

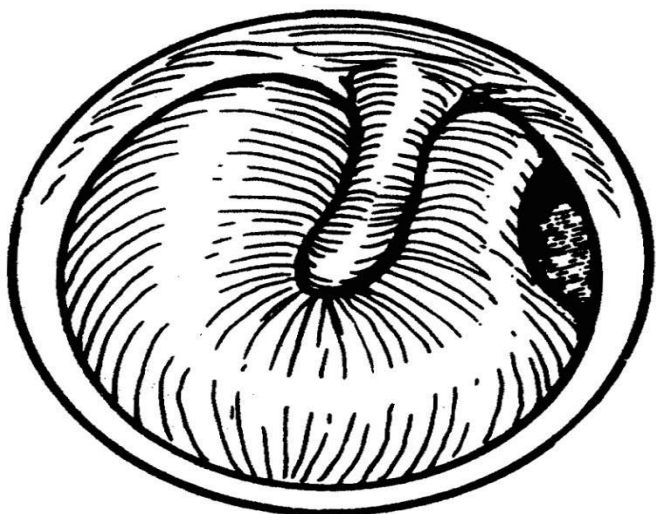




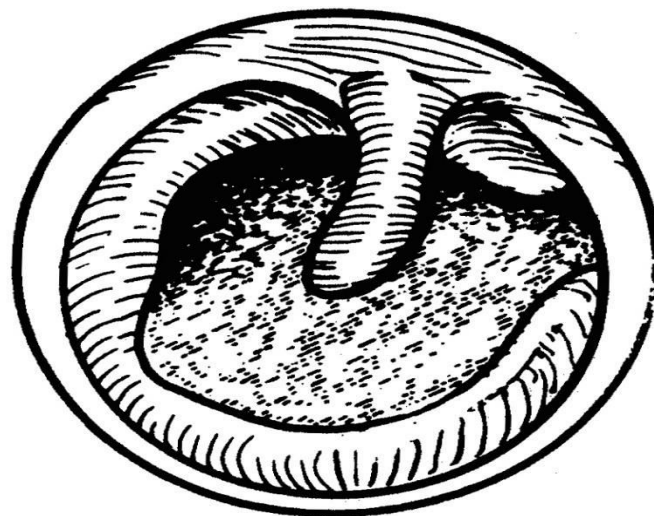
20% CENTRAL



90% CENTRAL



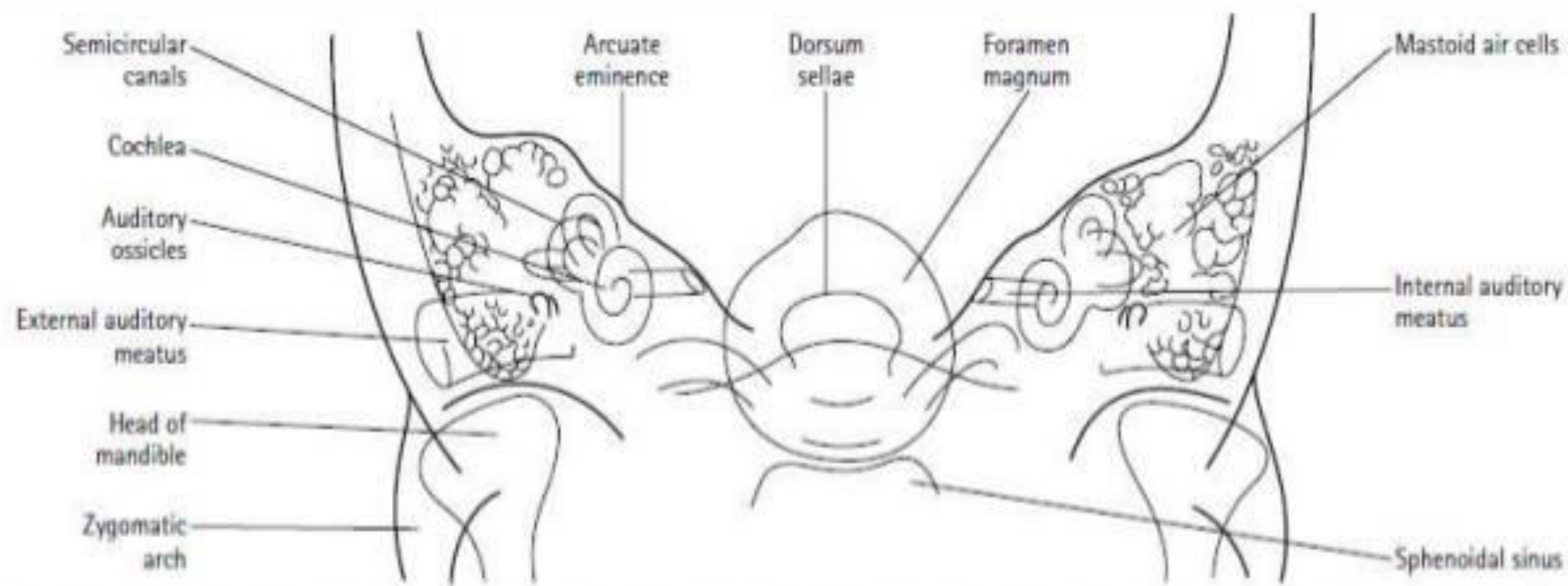
10% MARGINAL



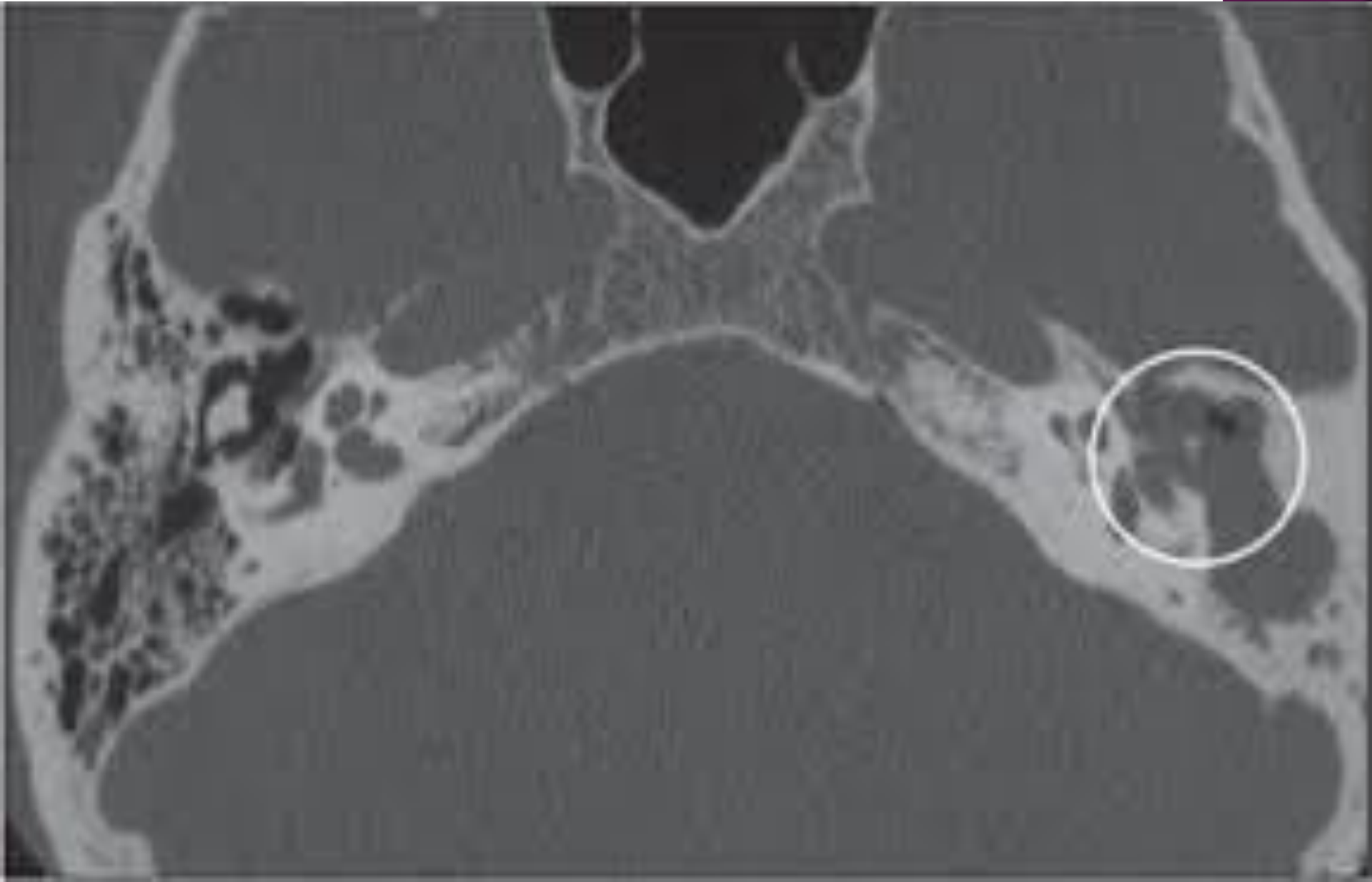
90% MARGINAL

INVESTIGATIONS

1. Examination under microscope.
2. Tuning fork tests.
3. Audiogram- PTA, Impedance
4. X ray mastoid-Towne's view.
5. CT scan of temporal bone.
6. Culture and sensitivity of ear discharge.



CT SCAN OF MASTOID BONE



TREATMENT

1. **Surgical:** primary aim in surgical treatment is
 - to remove the disease and render the ear safe.
 - to preserve or reconstruct the hearing.
 - ◉ **Modified radical mastoidectomy.**
 - ◉ **Radical mastoidectomy.**
2. **Reconstructive surgery:** hearing can be restored by myringoplasty or tympanoplasty.

CSOM (Cont.)

Complications:

A) Minor

- Mucosal polyp.
- Granulation tissue formation.

B) Major

- Extra cranial.
- Intra cranial.



DIFFERENCE BETWEEN ATTICOANTRAL AND TUBOTYMPANIC TYPE OF CSOM

1. Discharge:

Profuse, mucoid, odourless (TT type)

Scanty, purulent, foul smelling (AA type)

2. Perforation:

Central (TT type)

Attic or marginal (A A type)

3. Cholesteatoma:

Absent (TT type)

Present (A A type)

DIFFE. OF TT TYPE A A TYPE OF CSOM

4. Granulations:

Uncommon (TT type)

Common (A A type)

5. Polyp:

Pale colour (TT type)

Red and fleshy (A A type)

6. Complications:

Rare (TT type)

Common (A A type)

Thank you All

