Non-Suppurative Otitis Media

1. Otitis Media with Effusion
2. Adhesive Otitis Media
**Synonyms**

- Otitis media with effusion
- Secretory Otitis Media
- Glue Ear
- Serous Otitis Media
- Mucoid Otitis Media

**Definition**

A clinically non-infectious non-suppurative form of fluid collection behind an intact TM.
Patho-physiology

- Oxygen is constantly absorbed from the middle ear (one mL/day) by its mucosa -ve P.
- The ET is closed most of the time. It opens periodically (1000 times /day) to equalize ME pressure.
- Acute ET obstruction ME vacuum vascular engorgement transudation of serous fluid from subepithelial vessels Acute serous OM.
- Insidious ET obstruction increased CO2 tension glandular hypertrophy production of viscid mucus chronic secretory OM.
- Post-otitis glandular hypertrophy production of viscid mucus chronic secretory OM.

Etiology

1. Acute Eustachian tube obstruction (Causes: Barotrauma / Acute URTI / Severe hay fever)
2. Post-otitis (Unresolved acute otitis media due to inadequate therapy)
3. Eustachian tube dysfunction
Etiology

Causes of Eustachian tube obstruction / dysfunction

1. Functional obstruction
2. Secretional obstruction
3. Mechanical obstruction

Functional Obstruction

This type of obstruction is common in infants and younger children

1. increased tubal compliance: due to a decrease in the amount and stiffness of the cartilage supporting the ET.
2. abnormal active opening mechanism: due to age-related inefficient contraction of tensor palati muscle
Etiology

Secretional Obstruction

1. Production of very viscid ME secretions, as to cause blockage of ET lumen e.g., Mucoviscidosis/cystic fibrosis
2. Defective mucociliary clearance of ME secretions: Kartagener syndrome/primary cilia dyskinesia.

Etiology

Mechanical Obstruction

1. Congenital e.g. Cleft palate
2. Acquired
   1. Adenoids
   2. Allergy
   3. Inflammatory: e.g., Coryza (Rhinopharyngitis)
   4. Metabolic: myxoedema due to tubal oedema
   5. Neoplastic
      1. Benign e.g., angiofibroma
      2. Malignant, e.g., nasopharyngeal carcinoma
6. Traumatic
   1. F.B.: post-nasal pack
   2. Physical trauma: Post-irradiation
   3. Surgical trauma: post-adenoidectomy scarring
Clinical Types/Stages

- Acute /Serous
- Chronic/ mucoid (Secretory)

Symptoms

- Hearing loss
- A feeling of blockage
- Tinnius
- Pain, in acute cases.
Otologic Examination

Otoscropy

- Air bubbles
- Air-fluid level / Hair-line
- Froth
- Opaque TM
- Retracted TM
Pneumatic Otoscopy

Seiglization

- Restricted mobility of TM

Otologic Examination

Tuning Fork Tests

- Rinne test is –ve
- Weber test lateralizes to same side
- Schwabache test is prolonged
Otologic Examination

Audiometry

Hearing Level in Hertz (Hz)

FREQUENCY IN HERTZ (Hz)

125 250 500 1000 2000 4000 6000

Otologic Examination

Otologic Examination

A

B

C

A_a

A_d
Nasopharyngeal examination

• With a nasopharyngeal mirror
• With an endoscope

• In case of unilateral ME effusion in an adult, You should suspect nasopharyngeal carcinoma, and proceed to nasopharyngeal examination

Complications

• Pars Tensa sequelae including:
  • Retraction Pocket.
  • Tympanosclerosis.
  • Atrophy.
  • Adhesions.
Complications

- Recurrent acute otitis media.
- TM sequelae (Atrophy, tympanosclerosis, retraction pocket, adhesions)
- Middle ear atelectasis / adhesive otitis media.
- Secondary cholesteatoma (secondary to posterosuperior retraction pocket)
- Developmental impairment consequent to hearing impairment

Treatment

- Medical treatment
- ET Inflation
- Surgical treatment
Medical treatment

1. Oral decongestants
2. Mucolytic agents
3. Anti-inflammatory compounds/corticosteroids
4. Antibiotics

Medical treatment is to be tried for 3 months before surgery is resorted to

ET inflation

• By employing Valsalva maneuver
• By politzerization
Surgical treatment

1. Myringotomy/Grommets
2. Adenoidectomy
3. Cortical mastoidectomy/ rarely used

Myringotomy & Grommets
Myringotomy

- **Definition:** Myringotomy is a surgical incision of the tympanic membrane.
- **Site:** Antero-inferior or Postero-inferior quadrant of the tympanic membrane. (Antero-superior quadrant with a Grommet's tube)
- **Instrument:** Myringotomy Knife.
Adhesive Otitis Media

Synonyms

*Middle ear atelectasis*
*Atelectatic otitis media*
Pathophysiology

- Complication of chronic secretory otitis media in which the tympanic membrane has become thin, atrophic, retracted, and adherent to middle ear structures
- Fibrous organization of chronic sterile middle ear effusion

Signs

- Tympanic membrane
  - Opaque, off-white
  - Distorted cone of light
  - Irregularly retracted
  - Immobile
Treatment

- **Surgical:**
  Tympanoplasty+Synechotomy+placement of silastic sheeting in ME to prevent recurrent adhesions+cartilage reinforcement of TM+ Gromet tube if there is concomitant ME effusion or vacuum.
- **Hearing aids**
THANK YOU
FOR YOUR ATTENTION