ACUTE OTITIS MEDIA

Sources: Lecture Notes, Slides, 427 Team, Toronto's Notes

Definition:

- It is acute infection of mucous membrane lining middle ear cleft.

Predisposing factors:

- Age: common in infants & children duo to 2 reasons:

1. Lower immunity than adults.
2. Eustachian tube is wider, short & more transferse.

- Maleness.

Bottle-feeding children:

1. Lower immunity than breast-feeding children.
2. Position for bottle-feeding is more transferse than breast- feeding position --> Increase probability of regurgitation of milk to middle ear via Eustachian Tube.

- Climate: more in winter.
- Crowded living condition.
- Hereditary.
- Associated condition: cleft palate, immunodeficiency, ciliary dyskinesia, Down's syndrome, cystic fibrosis.

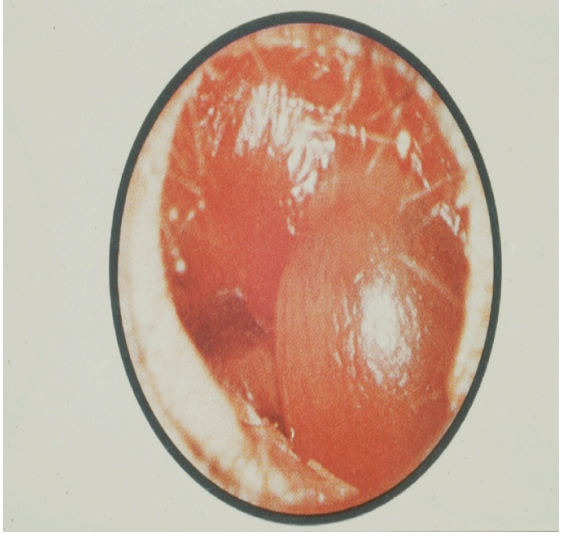
Route of infection of otitis media:

- Eustachian tube (> 90% of cases): therefore, mostly patient with OM has been suffered from acute rhinitis before developing of OM.
- External auditory canal: if the eardrum is perforated.
- Blood borne - theoretically rather than clinically.

Bacteriology of Otitis media:

- Streptococcus pneumonia.
- H. influenza: more common in children.
- Streptococcus pyogen
- Staph. Aureus.
- anaerobs (newborn)

- Viral could be a cause also !
- These organisms are also responsible for acute sinusitis.



Acute Otitis Media – Stage IV

Pathology of Otitis Media:

- Eustachian tube occlusion: discomfort, autophony retracted drum duo to negative pressure.
- Exudative inflammation: fever, earache, deafness & congested ear drum.
- Suppurative inflammation: bulging of drum duo to Increase pressure in tympanic cavity, Increase severity of fever, congestion & bulging of the drum, deafness.
- Tympanic membrane rupture: due to Increase pressure, otorrhea, high temperature & earache will subside.
- Resolution.

These stages are taken place if OM isn't treated.
The fever of OM can be raised at any stage of OM.

Clinical Features:

- Triad of: Otalgia, Fever (especially in younger children) and Conductive hearing Loss
- Rarely: tinnitus, Vertigo, and/or Facial nerve Paralysis
- Otorrhea: Only if the Tympanic Membrane is perforated
- Pain Over Mastoid Process

Otoscopy of the Tympanic Membrane:

- Hyperemia
- Bulging, Pus may be seen behind TM
- Loss of Landmarks: Handle and long process of Malleus not visible

Stages: (IMPORTANT)

1- There is Redness in the handle of malleus. Mild Pain. deafness

Treatment is Nasal decongestion, Analgesics, antihistamine

2- If the Patient does not receive any treatment, the congestion will spread laterally. Worse than stage 1.
Treatment is the same as stage 1 + antibiotics

Notes that:

Both Stage 1 & 2 patients are treated as an Out- patients.

3- the Whole Tympanic Membrane becomes Red, Congested, Sever Pain, (If it is a baby he will cry a lot)
Treatment is the same as stage 2 but the patient will be admitted (IN- Patient)

4- Sever pain, bulging TM restless patient.
Treatment is IV Antibiotics (IN patient), sometimes we do a small incision in the TM

Note: if you don't treat the patient if he reached stage 4, there will be spontaneous Rupture of the TM and Perforation. will Lead to a complications

Complications:

1. Otologic:

- TM perforation
- chronic suppurative OM
- Cholestatoma
- Persistent effusion (leading to hearing loss)

2. CNS:

- Meningitis
- Brain Abscess
- Facial Nerve Paralysis

3. Others:

- Mastoiditis
- Labyrinthitis
- Sigmoid Sinus Thrombophlebitis

Treatment:

1. **Symptomatic:**

- Analgesics.
- Rest.

2. **Antimicrobial treatment:** one of the following for 7 days.

- Amoxicillin + calvulonic acid = Augmentin.
- Trimethoprim / sulphamethoxazole.
- Cefaclor / cefixime.
- Erythromycin — sulphisomoxazole.

3. **Decongested:**

- Decongestive nasal drops or spray to open Eustachian tube.

4. **Myringotomy: open** of the Tympanic Membrane

- It is used if the eardrum is bulging.
- It is used for culture sensitivity if the infection fails to resolve properly.

5. **Ear toilet & local antibiotics.**

Recurrent acute Otitis Media:

- It is called recurrent if it is occurred 3 times or more over 6 months.
- **Treatment**

a. Long term low dose antimicrobial -> half of the therapeutic dose for 3 months. *or* 6 weeks

b. Ventilation tube insertion:

- Minimize the incidence of acute infection.
- Extruded by itself.
- Provide drainage if the infection occurred.
- Better than long term antibiotics.
- Recurrent acute otitis media is not the only indication for it.

Done !