

Acute Otitis Media

- It is an inflammation of the cleft of the middle ear.
- Peak age < 7 yrs ... more risk of URTI + wide, horizontal & shorter E.tube + adenoids decrease in size with increasing age.

→ Risk factors :

Age < 7, Family history, Crowded place, Seasonal variation → winter, **Pacifier use, Pollution & irritant inhalation, Lack of breast feeding** → breast milk decreases colonization of nasopharynx by oto-pathogens.

→ Causes :

Bacterial → *S. pneumoniae*, H. influenzae

Viral → RSV, PIV, influenza virus, Rhinovirus! Adenovirus

- Coinfection with both bacterial and viral pathogens is common.

→ Pathogenesis :

Viral URTI → edema in the E.tube → swelling and obstruction of the tube → negative pressure within the middle ear → accumulation of the secretions of the middle ear → colonization resulting → otitis media.

Hyperemia

→

Exudation

→

Suppuration

→

Resolution / Coalescence

- redness of the mucosa of middle ear, sense of fullness & mild conductive hearing loss

↳ *Cartwheel*

- purulent fluids, loss of cone of light, marked conductive hearing loss

- pus accumulate inferiorly in the middle ear → the tympanic membrane will perforate inferiorly → conductive hearing loss

→ Symptoms :

General → Otagia/ as throbbing pain, Fever, Hearing loss, Otorrhea / if ruptured TM

In infant → Irritability! Incessant crying, Refusal to feed / anorexia, Repeatedly touching the affected ear, Fever and febrile seizures, Vomiting

→ Examination Findings :

Otoscopy → **Bulging** tympanic membrane, loss of light reflex, Distinct erythema of the TM, Yellow spot on the TM, **Cartwheel TM**

Tuning fork test → to verify conductive hearing loss secondary to an effusion.

→ Diagnosis ► CLINICALLY !!

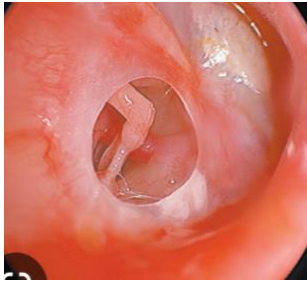
- Tympanogram. ► type B curve
- Audiogram ► Air-bone gap of 15-20dB
- Gram stain and culture of middle ear fluid ► **tympanocentesis**
- Exclude other causes / DDx ► OM with effusion, Chronic OM, Foreign bodies, Referred pain from teeth

→ Treatment :

- Uncomplicated AOM ► self-limiting in 80% Outpatient observation for 48-72 hrs+ Oral analgesia/ Ibuprofen
- Antibiotic treatment ► <5 years → H. Influenza → Augmentin (**Amoxicillin** and clavulanic acid).
► >5 & adults → S. Pneumonia → Ampicillin / **Amoxicillin** / Erythromycin.

→ **Late complications :**

- 1) Tympanic membrane perforation
- 2) Tympanosclerosis
- 3) Middle ear effusion
- 4) Erosion of ossicular chain
- 5) Adhesion between tympanic membrane , ossicles and medial wall
- 6) Mastoiditis



(1)



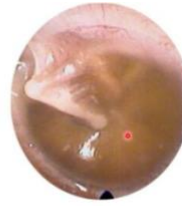
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Normal Ear
(no fluid)



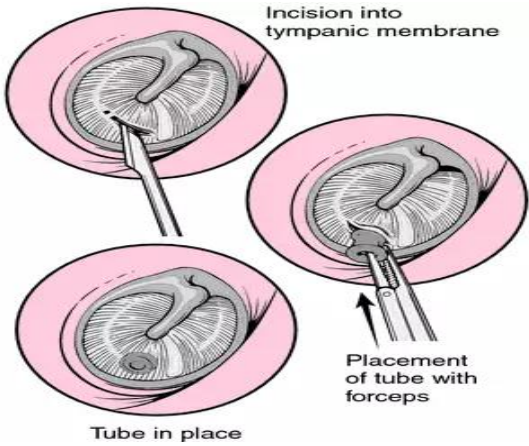
Some Fluid
(air-fluid levels)



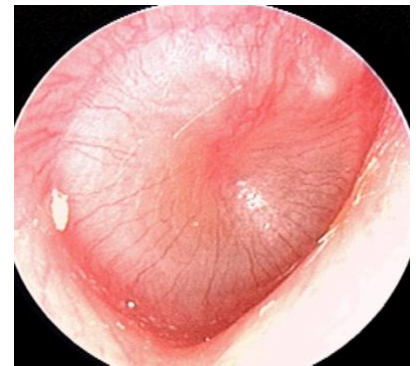
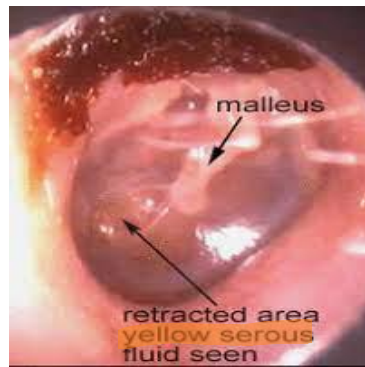
Effusion
(full of fluid)



(6)



Tympanocentesis



*cartwheel T.M
Stage I*

OTITIS MEDIA

