Otitis media(OM)

Acute suppurative otitis media(ASOM)

Def : it is an acute inflammatory reaction of mucosal lining of middle ear cleft the type of this reaction and its progress to become non-suppurative depend on :

- Virulence of M.O invading the cleft.
- Resistance of patients, age of patients.
- Drainage mechanism of cleft, pneumatization .
- AB therapy.

Aetiology

1.rhinosinusitis .

2.nasophyrngitis.

3.tonsillitis.

4.influenza and acute infectious diseases.

5.nasopharyngeal tumor.

6.traumatic perforation of TM.

7.operation on nose & throat.

Bacteriology

1.haemolytic streptococcus.

2.stre. pneumoniea.

3.staph. aureous.

4.H. influenzae.

Histopathology

The accepted sequel of events in ASOM is the deposit of causal MO at the nasopharyngeal end of Eustachian tube followed by spread of inflammation throughout the cleft , the progress sometime vary rapid so need only one night from the onset till perforation of TM and pus discharge.

The 1st effect of tubal infection is the inflammation and occlusion of the tube, air in the middle ear absorbed and not replaced so exudation lead to collection of fluid(effusion) and that is good culture for growth of M.O =lead to suppuration then resolution with or without perforation of TM.

There are 4 stages: according to otoscopic finding:

1.tubal occlusion : retraction of tymp. Mem. Due to air absorption and –ve pressure , effusion may be present but undetectable .

2.hyperaemic stage (presuppuration stage):

Hyperemia of tympanic vessels or diffuse hyperemic membrane ,at this stage serous exudates is present.

3.suppuration :

Gross engorgement of TM, bulging of TM
deterioration in patient general condition
appearance of yellow area on the TM which is the site of perforation as follow .

4.resolution : return to normal if there is no perforation .

If there is perforation the discharge decrease till it is cease.

Clinical picture:

1. stage of tubal occlusion =

1) Deafness conductive type so the patient hear own voice sound loud in the affected ear .

Otoscopy show retracted TM lead to horizontal displacement of handle of malleus ,loss of cone of light , prominence of lateral process of maleus ,sometime fluid level with air bubbles.
2)slight pain or discomfort.

2.Stage of hyperemia (presuppuration):

1)increasing ear ache , deafness & tinnitus.

2)Increase temp. , ↑ PR, loss of appetite & vomiting so its stage of visit to Dr. & there is indication of medical treatment to prevent suppuration.

3. Stage of suppuration :

previous symptoms become worse & the patient will obviously ill.

4.Stage of resolution :

1)without perforation the symptoms relief .

2)with perforation the pus discharge decrease with the time & symp. Relief.

Differential diagnosis

i. Allergy
ii. Viral infection
iii. Adenoid hypertrophy
iv. Barotraumas
v. Glomus tumor
vi. Otitis externa haemrrohgica
vii. H. zoster infection
viii. Furunclosis of external ear.

Treatment of (ASOM):

The treatment depend on the stage reached by the infection.

1)stage of tubal occlusion treated by

a. Local decongestants combined by swallowing & yawing or(valsalva maneuver) ,the nasal drop as 1% ephedrine hydrochloride.
b. Analgesia as paracetamol , no need for AB in this stage.

2)stage of hyperemia or(presuppuration):

i. Nasal drop
ii. Analgesia
iii. Antibiotic as amoxicillin started with IM injection followed by oral administration of 250 mg/8 hr's for 5 days ,if patient sensitive to penicillin erythromycin used.
If there is no response to the previous AB we can use cephalosporin (claforan)

3.stage of suppuration : over using of previous treatment there is place of surgery as myringotomy to drainage of middle ear cavity pus.

i. When there is no response to previous medical treatment.
ii. Bulging of TM.
iii. Delayed in resolution.

4.stage of resolution : treated when there is:

i. Continual drainage of pus.
ii. Retention of effusion .

iii. Persistent mucosal engorgement with earache & deafness.

All these criteria of non resolution so in case of continual otorrhaea more than 10 days treated by :

a) Second course of AB after culture by test.
b) When there is inadequate drainage (pin hole) perforation myringotomy is indicated .
c) When there is x-ray finding of mastoid reservoir (cortical mastoidectomy indicated).

In case of retention of effusion : treated by 2nd & 3rd course of AB & medical support then myringotomy if need.

Same treatment use in case of persistent mucosal engorgement.