Middle Ear Diseases

Marize Viljoen
ENT Tygerberg
Acute Otitis Media

- Inflammation +/- infection of middle ear
- Short + severe episode
- Most common children
- Associated with respiratory infx/ blocked sinuses or ET(allergies/ enlarge adenoids)
- Bacteria-S. Pneumoniae, H.Influenzae, M.Catarrhalis
- Viruses-RSV, Influenzae A+B, Rhinovirus
Risk Factors

- Recurrent URTI
- Group day care
- Secondhand smoke exposure
- Immune status
- Vaccine status
- Nasal allergies
- High altitude/cold climate
Symptoms

- Severe otalgia (50-75%)
- Conductive Hearing loss
- Fever/Chills/anorexia
- <2yrs-Irritability/ Acutely ill/ unconsolable crying
Signs

- Ear inspection- dullness, redness, air bubbles or fluid behind eardrum
- Bulging eardrum/ retracted
- Perforations with otorrhea/bleeding
- Decreased mobility of eardrum
- Type B tympanogram
Treatment

- Antipyretic + analgesics
- Antibiotics- 1) Amoxil / 2) Augmentin/ 3) Cefuroxime for 10 days
- Nasal spray/ drops/ antihistamines (ET)
- Follow up after 2/52 to ensure resolution
- Keep ear dry + clean
Otitis Media with effusion:

*Inflammation- resulting collection of fluid behind eardrum
*6-7yrs eustachian tube function normalizes
*ET-tube obstruction/ ongoing middle ear inflammation
*Resolve spontaneously
Signs:

*Children- asymptomatic
  -pull ear/ clogged ear

*Parents of children–poor hearing
  -speech + language developmental delay

*Adults –aural pressure
  -hearing loss
  -clicking/ popping sounds
Symptoms:

- Dull, immobile, bulging, retracted TM
- Air bubbles/ air-liquid interface
Dx workup:

- Pneumatic otoscopy
- Type B tympanogram
- Audiogram- 10-30dB conductive hearing loss
- Flexible fiberoptic nasopharyngoscopy (adults)
Rx:

- Observe + followed closely
- Myringotomy + grommets insertion for persistent OME (No resolution after 3/12)
Indications for referral

- If symptoms worsen/new appear
- No improvement after 48H on A/B
- Persistent fever
- Severe headache
- Persistent otalgia
- Mastoiditis
- Facial tics
- Vertigo
Chronic Suppurative Otitis Media

- Recurrent/ persistent inflammation +/infx of middle ear or mastoid cavity
- Classification - without cholesteatoma
  - with cholesteatoma
- More bacterial
- Higher incidence resistant organisms
- Serious + fatal complications
Causes

- ET blocked – allergies, multiple infx, ear trauma, swelling of adenoids
- Unresolved acute ear infx
- Recurrent ear infx - perforation
- Pathogens- P. aeruginosa, S. aureus, Anaerobe, Fungal infections
Symptoms

- Painless / discomfort
- Otorrhea
- Hearing loss
- May be continuous or intermittent
Signs

- Purulent foul smelling discharge
- Perforation-
- Aural polyp
- Hearing loss
- Cholesteatoma- White debris/ retraction pocket/ granulation tissue/ attic perforation
Complications of OM:

- Extracranial: CSOM with cholesteatoma
- Acute Mastoiditis
- Labyrinthitis
- Facial paralysis
- Tympanosclerosis
- Partial/ complete deafness
- Petrous apicitis
Intracranial:

- Meningitis
- Sigmoid sinus thrombosis
- Subdural empyema
- Intracranial abscesses
- Epidural abscess
Treatment (Medically):

- Antibiotics - For 14 days
- Ear toilet - syringing/ dry mopping/ suctioning
- Ear drops - A/B + steroid/ steroid/ acid drops
- Audiogram if dry
- ENT referral
Chronic Otitis Media (1)

Antibiotics (2)
Ear drops (3)
Audiogram (4)
ENT Referral
Cholesteatomas

- Stratified squamous epithelium in middle ear
- Theories of origin: Migrate from EAC/
  Hyperplasia basal layer of pars flaccida – healing or retraction/
  squamous metaplasia due to longstanding infx
- Begins desquamate + accumulates
- Collagenases + destroy adjacent bone
Treatment (Surgery):

- Refer for mastoid surgery
- Keep ear dry+ clean- local Rx
- Audiogram
Acute Mastoiditis:

- Contiguous spread AOM to mastoid
- Sequela of partially/untreated AOM
- Mucosal edema + infx with clouding of mastoid air cells
- Mean age 3 years
- Diagnosis based on clinical features
Symptoms:

- Fever/ Rigors
- Otalgia
- Significant retroauricular pain
- Otorrhea at times
Signs:

- Postauricular tenderness to palpation + edema
- Ear protrusion
- Sagging of posterosuperior EAC
- TM- AOM/ CSOM
- Conductive hearing loss
- Leukocytosis
**Dx + Rx:**

- CT-scan delineate extent of infx
- Organisms-S. Pyogenes, S. Pneumoniae, H. Influenza, P. Aeruginosa, Anaerobes
- IV A/B (2<sup>nd</sup> gen. cephalosporin)
- Myringotomy + grommets
- Mastoid surgery - coalescence of mastoid/ no improvement on A/B/ complication
Complications:

- Extracranial – subperiosteal abscess
  - middle ear pathology
  - luc’s abscess
  - bezold’s abscess
  - citelli’s abscess
  - petrositis

- Intracranial – meningitis/epidural abscess/
sigmoid sinus thrombosis/brain abscess
The End