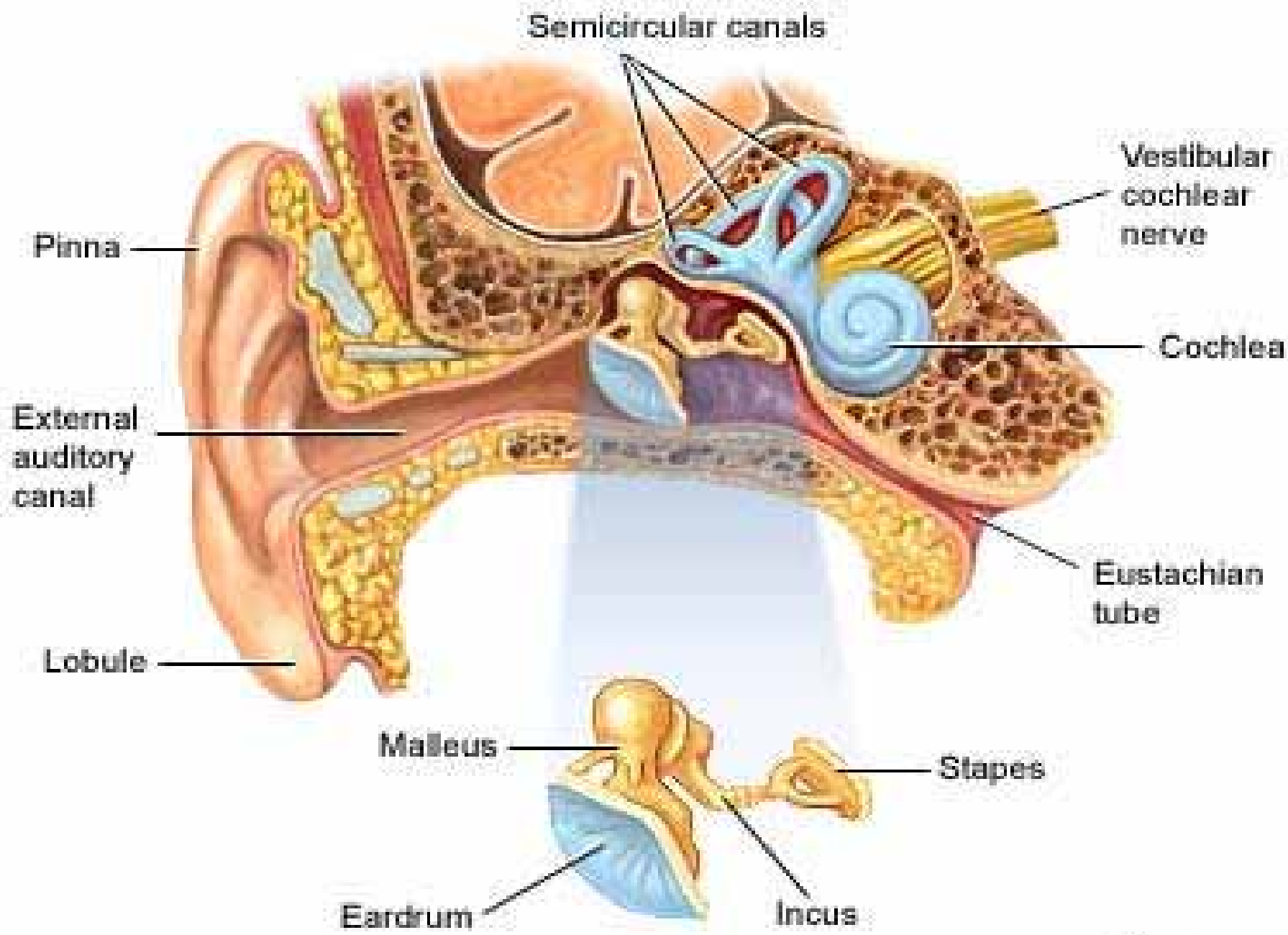


Middle Ear Diseases

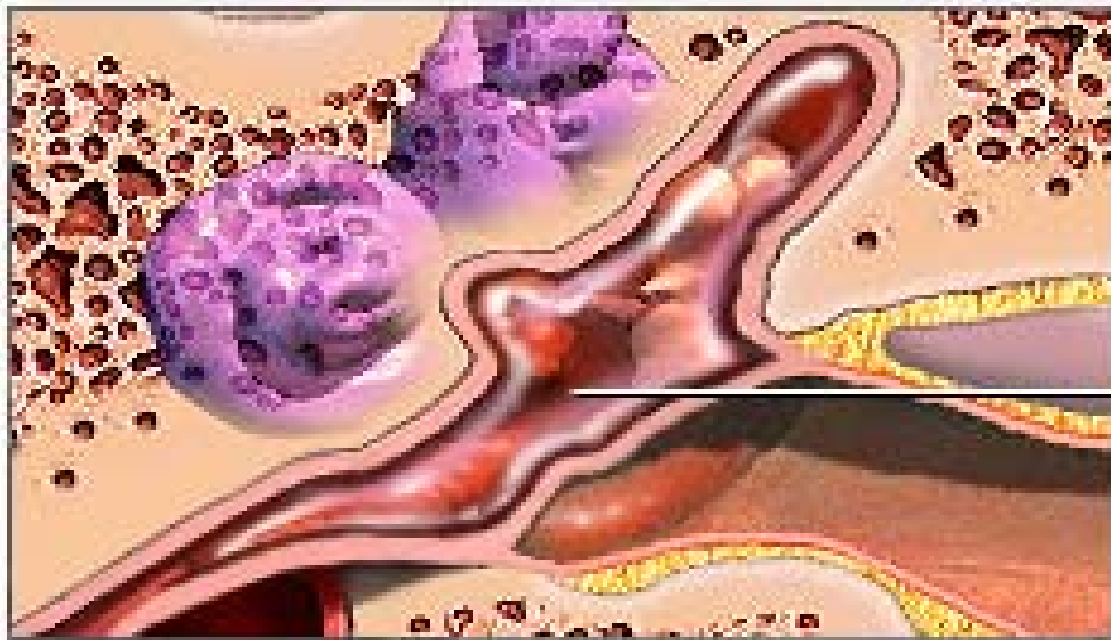
Marize Viljoen
ENT Tygerberg





- Incus
- Malleus
- Stapes
- Eardrum
- Eustachian tube

Middle ear



Otitis media

Inflammation and fluid

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

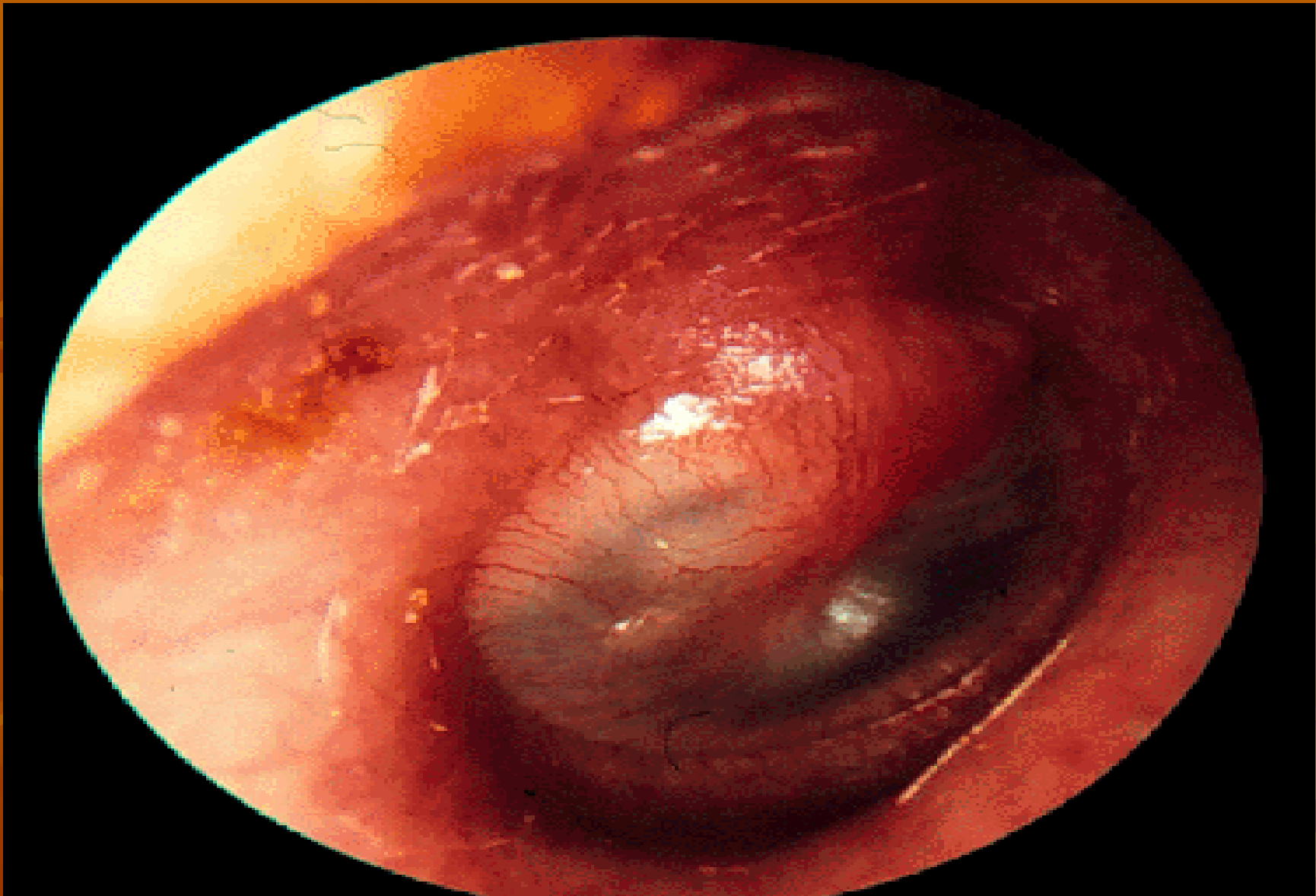
- Recurrent URTI
- Group day care
- Secondhand smoke exposure
- Immune status
- Vaccine status
- Nasal allergies
- High altitude/cold climate

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



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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:

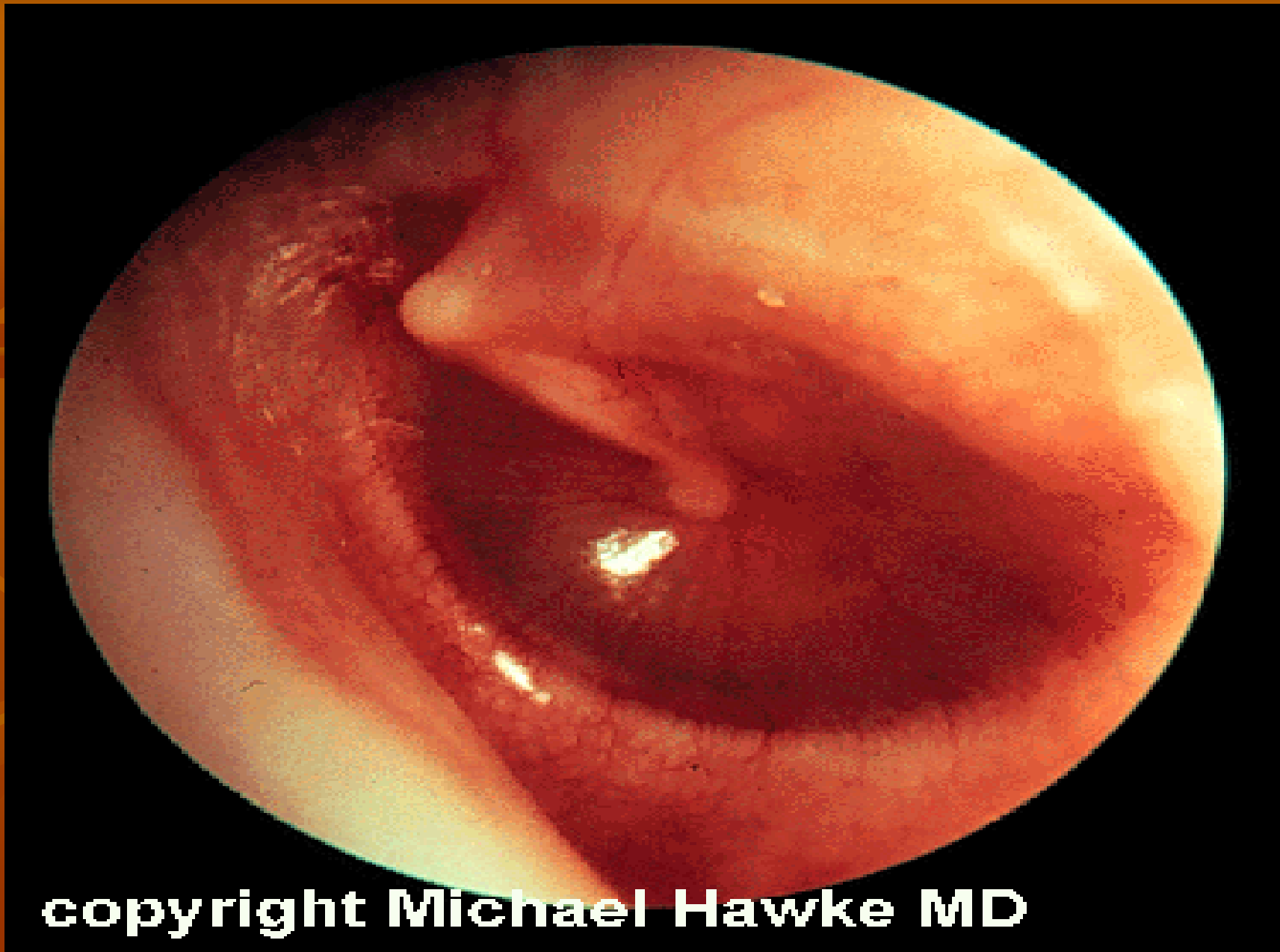
- *Inflammation- resulting collection of fluid behind eardrum
- *6-7yrs eustachian tube function normalizes
- *ET-tube obstruction/ ongoing middle ear inflammation
- *Resolve spontaneously

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



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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

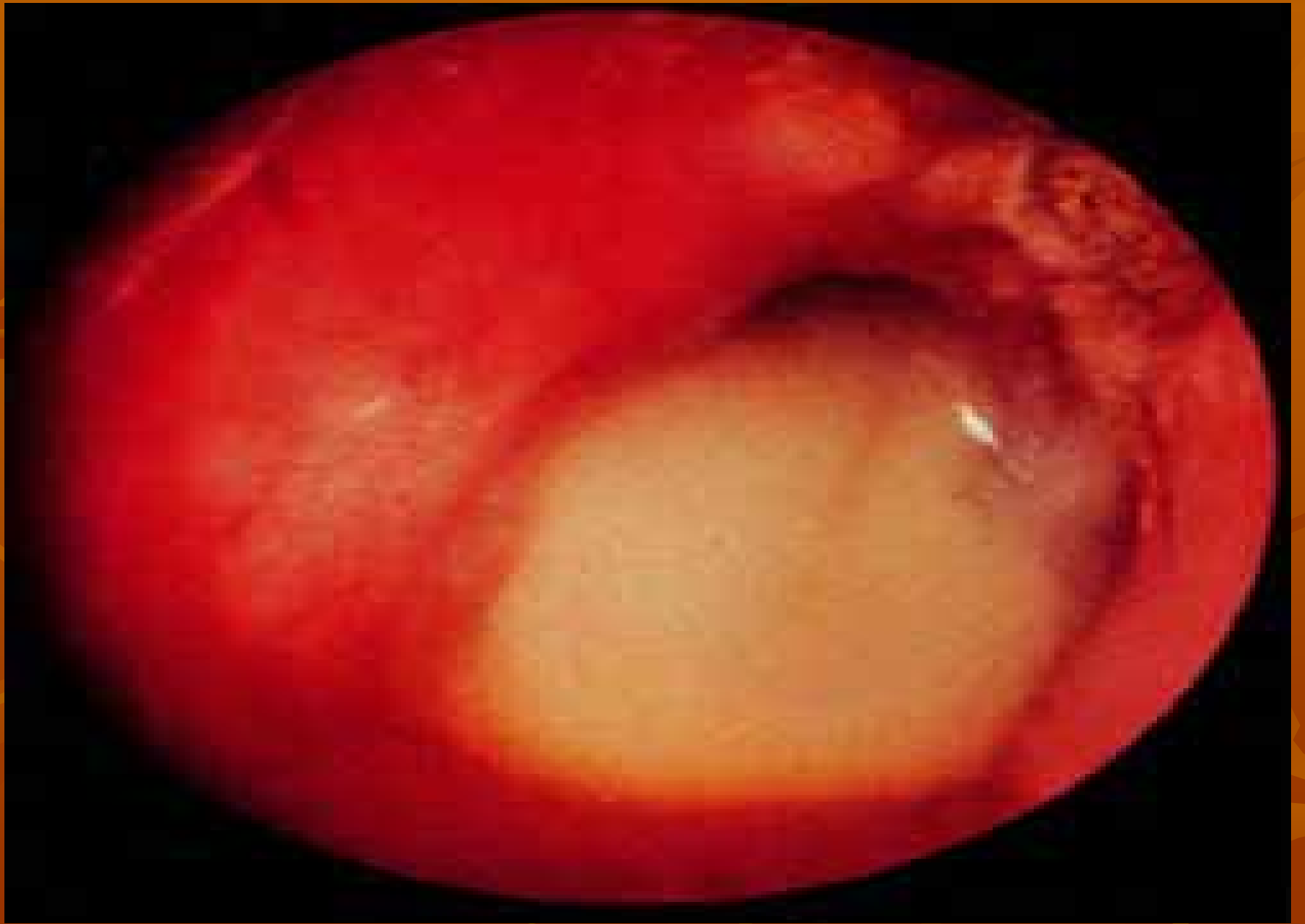
Symptoms

- 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:

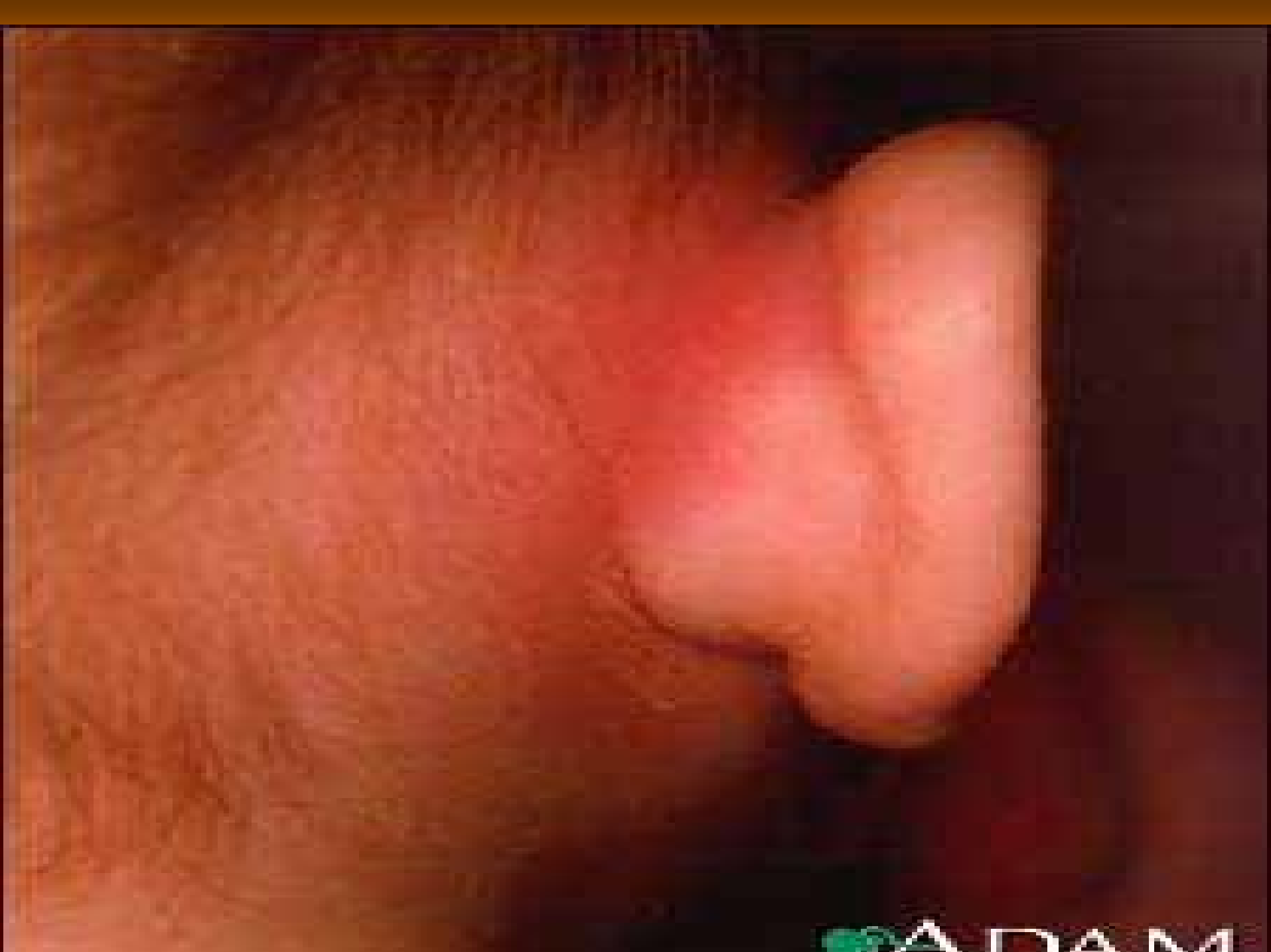
- Contiguous spread AOM to mastoid
- Sequela of partially/untreated AOM
- Mucosal edema + infx with clouding of mastoid air cells
- Mean age 3 years
- Diagnosis based on clinical features

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 (2nd 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

