Common Ear Conditions in General Practice

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GPST2
Outline of Presentation

- Anatomy of the ear
- Ear examination
- Common ear conditions
  - Ear wax impaction
  - Otitis externa
  - Otitis media, Glue ear
  - Tympanic membrane perforations
  - Cholesteatoma
- Lots of pictures
Recap of anatomy of the ear
Normal Tympanic Membrane

- Consider the malleus as an arrow; pointing in the forward direction.
- TM should be:
  - pearly grey
  - have a light reflex
  - generally concave
  - malleus should be visible

Abnormals:
- Retraction (bones more prominent)
- Perforations
- Bubbles (glue ear, resolving infection)
- White patches (tympanosclerosis or cholesteatoma)
- Granulations
- Red lesion at tip of malleus (glomus tumour)
- Grommets/FBs
Landmarks of TM

An *annulus fibrosus* or more commonly referred to as the eardrum margin. This is important. Note how smooth and how ever so slightly blurry it is.

**Um** *umbo* - the end of the malleus handle and usually marks the centre of the drum

**Lr** *light reflex* or Cone of light – is usually seen antero-inferiorly

**At** *Attic* also known as *pars flaccida*. Any perforations here are serious and need referral.

**Lp** *Lateral process of the malleus*

**Hm** *handle of the malleus*

**Lpi** *long process of incus* - sometimes visible through a healthy translucent drum
Examination of the ear

Have a system

1. **External**
   - a. Pinna (shape, colour, position, haematoma etc)
   - b. Mastoid (tender in AOM or mastoid abscess)

2. **Internal**
   - a. The Canal (skin, furuncle, scales, spores, FBs, discharge, debris, wax)
     - b. The Tympanic membrane (look ant, post, superior/ attic and inferior of malleus)
       - Colour (opaque, white, red, patches & translucency)
       - Retraction (landmarks behind it more visible)
       - Perforation (safe/ unsafe)
       - Discharge (purulent, mucopurulent)
Examination of ear cont’d..

c. Behind the Eardrum

  . Fluid behind the drum (meniscus, air fluid levels, colour, bubbles?..can ask for a Valsalva if appropriate)
  . Any red bits (glomus tumour, granulations or blood?, white-cholesteotoma)
Ear wax

- Physiological and migrates outwards along ear canal
- Wax impaction can cause hearing loss, pain, tinnitus, vertigo, or chronic cough but not usually discharge.
Management of ear wax impaction

1. Educate about non instrumentation of their ear canals.

2. **If Symptomatic**
   - Ear drops for 7-10 days then syringe ears
   - Olive oil or sodium bicarbonate

3. **When to refer to ENT clinic:**
   - Patients known to have a tympanic membrane perforation or previous ear surgery (need microsuction), only hearing ear
   - Syringing fails
   - Causes pain or vertigo,
   - Hearing loss persists after wax removal.
   - Keratosis Obturans
Otitis externa

• Inflammation +/- infection of external ear canal.
• Affects 10% of adults. Adults > children.
• RFs: swimming, humid environment, narrow ear canal, hearing aid use, mechanical trauma.
• Presentation: ear pain, discharge, hearing loss +/- lymphadenopathy pre- and post auricular.
• O/e ear canal red, swollen and inflamed. Pinna painful to touch. Skin debris in canal.
• Pt usually is well.
Management of Otitis Externa

1. Analgesia i.e. paracetamol +/- ibuprofen

2. Ear drops: A topical ear preparation for 7 days.
   a. Acetic acid 2% eardrops (EarCalm®) – over the counter
   b. If infection present then usually antibiotic with a corticosteroid i.e. flumetasone–clioquinol (Locorten–Vioform®) ear drops.
   c. Gentison contraindicated if TM perforated.
   d. Antifungal i.e. Otosporin, Otomize (also contains hydrocortisone)

3. Aural toilet: if earwax or obstruct topical medication (may require referral).

4. If there is extensive swelling of the auditory canal, consider inserting an ear wick (may require referral).

5. Provide appropriate self-care advice
If no response after 1 week...

- Try a different topical preparation
- Oral antibiotics: flucloxacillin/ erythromycin
- Consider taking a swab for MC&S
- Consider referring to ENT

Remember: patients with Diabetes or on immunosuppressants and the elderly who do not respond may have Malignant Otitis Media

Refer to ENT Urgently!!
<table>
<thead>
<tr>
<th>Term</th>
<th>Acute Otitis Media (AOM)</th>
<th>Glue Ear</th>
<th>Chronic suppurative otitis media (CSOM)</th>
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</thead>
<tbody>
<tr>
<td>Definition</td>
<td>Acute infection and inflammation</td>
<td>Non-infected effusion in middle ear. <strong>Also known as secretory otitis media or otitis media with effusion</strong></td>
<td>Perforation and discharge lasting &gt;1 month</td>
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<tr>
<td>Image</td>
<td><img src="image1.png" alt="Image" /></td>
<td><img src="image2.png" alt="Image" /></td>
<td><img src="image3.png" alt="Image" /></td>
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<tr>
<td>This shows:</td>
<td><strong>Pus</strong> behind the ear drum. If left untreated, the ear drum will burst and pus will come out of the ear.</td>
<td><strong>Mucus</strong> behind the ear drum. Patients will have a mild earache and no fever.</td>
<td>A <strong>perforation</strong> and ear discharge. Patients will have a mild earache and no fever.</td>
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Acute Otitis Media

- Common in children. 75% <10yrs of age
- Unwell/pyrexia, otalgia/discharge
- There may be tenderness over the mastoid
- Discharge in meatus
- Loss of outline of drum and landmarks
- TM: red, bulging, oedematous or perforation.
- Mostly viral but can be Strep,
- Haemophilus

Risk factors:
- Passive smoker
- Male
- Family history of otitis media.
- In day care
- On formula feed
• Most common cause of AOM in children is Eustachian Tube Dysfunction
• The main functions of the Eustachian tube are to:
  • Drain middle ear secretions into the nasopharynx
  • Ventilate middle ear
  • Protect middle ear from nasopharyngeal secretions
• Infants have shorter, wider and more horizontal tubes with incomplete musculature which doesn't effectively open and close the tube.
• Also, children have large adenoids in the nasopharynx → obstruct the eustachian tubes and harbour respiratory bacteria.
Management of AOM

1. **Analgesia:** For most children, this is the mainstay of treatment.

1. **Antibiotics** should not be *routinely* prescribed for uncomplicated AOM.

80% resolve spontaneously within 3 days of onset.

A good *compromise* is to use issuing a delayed prescription to be redeemed within 72 hours *only* if the condition has not adequately improved.
Management of OAM cont’d…

When to offer immediate antibiotics?

1. Systemically very unwell (e.g. temp >38.5°C, vomiting)
2. High risk of serious complications due to other health problems (e.g. cystic fibrosis, immunosuppression, significant heart/lung/renal disease)
3. Already had symptoms for 4 days without improvement
4. < 2 years old with bilateral symptoms
5. Perforation/otorrhoea

Admission/referral may be indicated if:

• <6 months old with a high fever
• Suspected complications (e.g. meningitis, mastoiditis, cholesteatoma)
• Recurrent AOM (≥3 episodes in 6 months)
• Repeated AOM in adults (especially elderly) - risk of nasopharyngeal carcinoma
Too much to remember?

Think of it in terms of:
High risk or recurrent = admit/refer
Moderate risk = immediate antibiotics
Persistent AOM:
 Pt returning within 2 weeks with same complaints:
  • Analgesia
  • If not had Abx-give Abx e.g. Amoxicillin double the standard dose for 5/7
  • If had Abx-check compliance-If good then try 2nd line Abx e.g. Co-Amoxiclav at double the standard dose for 5/7.
How would you treat?

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Complications of AOM

• Complications from otitis media is extremely low.
  – Progression to glue ear and associated hearing impairment
  – Perforation. In one study 29.5 % children with AOM eardrum perforates. But spontaneously closed in 94 % of the patients within one month.

• Rarely to mastoiditis, labyrinthitis, meningitis, intracranial sepsis or facial nerve palsy.

• Recurrent episodes
  • atrophy and scarring of the eardrum,
  • chronic perforation and otorrhoea,
  • cholesteatoma,
  • permanent hearing loss,
  • chronic mastoiditis and intracranial sepsis.
Otitis media + Effusion: Glue ear

Features
• Dull retracted TM
• May show air-fluid level
• Conductive hearing loss (whisper test, Rinne/weber tests)

Notes
• Common in children; often after AOM and can persist for weeks
• Reduced hearing noticed by parents/teacher
• Unsteadiness- child falling over
• 80% clear at 8 weeks
Management of glue ear

- **Adults presentation** - the nasopharynx is examined to exclude tumour. Secretory otitis media is uncommon in adults. It usually follows a cold and spontaneously resolves; this may take up to 6 weeks.
- **In Children** - 50% of cases will resolve spontaneously within 6 weeks.
- Persistent of bilateral glue ear and hearing loss in a child should be confirmed over a period of 3 months before intervention is considered.
- Surgery: adenoidectomy or myringotomy and grommet insertion. However, a systematic review suggests that the role of grommets in the management of glue ear is unclear.

- Hearing aids: persistent OME, not for surgery.
- **Treatments not recommended** are antihistamines, decongestants, steroids, homeopathy, cranial osteopathy, acupuncture, dietary modification, including probiotics, immunostimulants, massage.
Safe vs Unsafe Perforations

- **Safe perforations**
  - may allow infection to enter the middle ear
  - conductive deafness

- **Unsafe perforations**
  - a retraction of the tympanic membrane and may gradually enlarge
  - when the retraction becomes extensive, keratinous debris builds up **cholesteatoma**
MAKE SURE YOU ALWAYS INSPECT THE ATTIC AREA ON OTOSCOPY!

Unsafe perforations are
a) In the attic or
b) In the posterior region. These are often linear rather than oval
c) Or involve the eardrum margin

Anything else is generally Safe.
i.e.
a) In the anterior region or
b) In the inferior region
c) And not involving the eardrum margin

Infected ear: (a) unsafe perforation; (b) safe perforation
Safe anterior perforation

Perforations in this position can occur after removal of grommet.
Safe inferior TM perforation

This is more likely to be as a result of chronic middle ear infection.
Unsafe attic TM perforation

Any defect or apparent perforation in the attic must be considered unsafe and should be referred for ENT assessment. This crust in the attic represents a large underlying cholesteatoma sac.

Note the bulging eardrum too.
Cholesteatoma
Cholesteatoma

- Skin or stratified squamous epithelium growing in the middle ear
- Results from formation of retraction pocket in pars flaccida
- Expansion of pocket can damage facial nerve, semicircular canals
- If infected then offensive discharge

Otoscopy:
- a pearly white mass usually in the pars tensa +/- discharge and sometimes erosion of the bone.
- a perforation is usually present, but not always visible due to overlying keratin.
- granulation tissue or polyps may be seen due to chronic inflammation and sometimes retraction pockets are present.
Why is it important to diagnose it?
• irreversible hearing loss from ossicular destruction
• facial nerve palsy
• labyrinthitis
• lateral sinus thrombosis
• meningitis
• intracranial abscess and otitic hydrocephalus.

While waiting for their ENT appointment:
• patients should keep the ear dry
• infective discharge can be treated with a two week course of antibiotic ear drops, with or without steroids
• aural toilet is also advised if there is debris.