CHAPTER 3.

OTALGIA

Pain felt in the ear is a common problem, but not all earache originates in the ear. Pain can arise from structures near the ear, or alternatively from sites more distant in the head and neck. If the pain originates from the ear itself, there are usually other symptoms at the same time, especially discharge, blockage and loss of hearing, or tenderness of the ear itself.

Otalgia may be classified as Otologic, peri-otic or referred.

1. HISTORY

A careful history, structured in the usual fashion, will help localise the problem within the ear, or without.

The **onset** of the pain should be linked if possible to any known evidently causative factors. For instance, a preceding URTI may indicate a middle ear site; swimming an external otitis. Post-tonsillectomy pain may be referred from the pharynx.

The **site** may be deduced by the patient, who may discern between deep-seated pain and more superficial sites that may be accompanied by tenderness, or by moving the jaw.

Longer **duration** pain indicates chronic disease, e.g. malignancy, as opposed to the short term lancing pain of herpes zoster.

The **nature** of the pain may suggest the site. The dull ache of peri-otic parotitis contrasts with the shorter but severe pain of acute otitis media, that may be exacerbated by self-insufflating the ear.

The **severity** of pain differentiates between otherwise similar conditions. The excruciating pain of aural furunculosis differs markedly from the pruritis of fungal otitis externa, whereas the latter may become more sharply painful if the drum ruptures.

**Frequency** of bouts of pain may suggest the origin. In a child this is suggestive of otitis media, but in an adult, in the absence of an overt cause, a TMJ origin may be suspected.

**Aggravating or relieving factors** are indicative. Pain on movement of the pinna suggests local inflammation of the external canal. Conversely, pain on mastication suggests a TMJ site.

Associated **classical ear** symptoms (discharge, deafness, tinnitus and imbalance) will help diagnose the majority of ear pain cases, but with some cautions. A “blocked” ear may not be deaf; deafness in others may not be related. Other
more distant sites (URT, dental) may have other relevant problems.

**Referred pain** is a common problem, especially from dental or pharyngeal origins.

2. **EXAMINATION**

Given an adequate view of the tympanic membrane with a bright auriscope light, it is fair to say that the great majority of true otalgias can be discerned clinically.

Difficulty may be encountered of the drum is badly scarred or tympanosclerotic, but most painful ear conditions exhibit characteristic features. If the ear appears normal, suspect a non-otological cause and carefully examine the peri-otic or distant sites of referred Otalgia.

a) Otologic Pain

i. **External Ear:**
   - Perichondritis
   - Furunculosis
   - Bacterial otitis externa
   - Otomycosis
   - Viral myringitis
   - Trauma

The common external infections frequently cause of true earache.

![Image of ear](image.png)

**Figure 1: Acute otitis externa. Severe pain, blockage and distress.**

External canal infection exhibits semifluid debris in the canal, swelling and pain. Debris may cause deafness or feel soggy. Persistent itch with the pain is suggestive of a fungal infection. Tenderness when pulling or pressing the ear is due to inflammation of the external canal tissues, usually but not always due to external canal disease origins.

ii. **Middle Ear:**
   - Acute tubal insufficiency
   - Acute otitis media
   - Chronic otitis media
   - Cholesteatoma
   - Acute mastoiditis

Middle ear disease always causes deafness when compared with the other side. The drum may be inflamed, discoloured,
Figure 1: Acute otitis media, the most common cause of true paediatric Otalgia.

Blistered, macerated or obscured. Drum perforation results in copious discharge or bleeding. Gurgling crackling or popping sounds are heard, often painful. Mastoiditis may produce a characteristic inflamed, perhaps fluctuant swelling above and behind the pinna. The inner ear rarely causes pain.

iii. Others
- Carcinoma
- Herpes zoster oticus
- Petrositis

b) Peri-otic Otalgia
- Temporomandibular arthralgia
- Parotitis
- Lymphangitis
- Temporal arteritis
- Trigeminal Neuralgia

Commonly, structures near the ear cause pain. The jaw joint (temporo-mandibular joint, TMJ) is notorious for this and may be accompanied by a raft of other symptoms suggestive of ear origin: fullness, blockage, pressure, “water”, “ants crawling” and “deafness” (but without actual hearing loss when compared to the normal side). Tenderness may be present, sometimes bilaterally but felt mostly over the jaw joint, especially movement of this structure. Snapping of the joint cartilage or slight grinding of the joint is sometimes noted.

TMJ pain is very common, often resulting from clenching or grinding the teeth as a result of everyday stresses, rather than true arthritic phenomena. This muscular tension is similar to a range of other “fight or flight” head and neck discomforts (scalp tension/common migraine, forehead pain, facial/“sinus” pain, globus syndrome, stiff neck). The mandibular tension may require expert dental care or physiotherapy, and may be aggravated by dental malocclusion or absent dentition.
c) Referred Otalgia

Thirdly, earache may arise from more distant sites, due to the phenomenon of “referred pain”: pain originating in a different branch of a nerve that also has sensory connection to the ear.

\(V_1, V_2\): Sinusitis, Dental caries, wisdom teeth. Floor of mouth malignancy

**Figure 3:** Mandibular causes of referred Otalgia
1. Wisdom tooth pain
2. Dental caries
3. Apical abscess
4. Mandibular carcinoma

**Figure 4:** Dental caries, a common mandibular pain felt as otalgia.

**VII:** Herpes Zoster oticus (Ramsay Hunt Syndrome)

**IX:** Tonsillitis, quinsy

Post-tonsillectomy Tonsillar carcinoma

**Figure 5:** Pharyngeal causes of referred Otalgia.
1. Tonsillitis
2. Quinsy
3. Tonsillectomy
4. Aphthous ulceration
5. Palatal carcinoma
6. Tonsillar carcinoma
7. Lingual carcinoma
8. Palatal carcinoma
9. Glossopharyngeal neuralgia

**Figure 6:** Tonsillar carcinoma. Beware chronic ear ache/pain in smokers.

**X:** Throat trauma

Epiglottitis
Laryngeal, hypopharyngeal Carcinoma
Figure 7: Hypopharyngeal causes of referred otalgia.

1. Acute epiglottitis
2. Supraglottic carcinoma
3. Laryngeal carcinoma
4. Pyriform fossa carcinoma
5. Hypopharyngeal trauma

Figure 8: Foreign body in the hypopharynx. Fish bones are a common offender but are radioluscent.

C1,2,3 Cervical spondylosis
Neck trauma

Cervical pain is sometimes misinterpreted as otalgia by patient and practitioner alike. Closer questioning may reveal a muscular insertion site as the offender.

The ear has a complex innervation, as above; referred pain is frequent. Common examples are dental decay, tonsillitis or other pharyngeal infections. With the elderly, smokers and those with poor dental or pharyngeal hygiene, suspect more deep-seated or sinister origins.

The essential feature of true ear pain is its association with other ear symptoms: discharge, deafness, crackling/popping/gurgling noises, definite loss of hearing, and tenderness in the ear canal itself. If these are not evident, check for jaw or other origins.