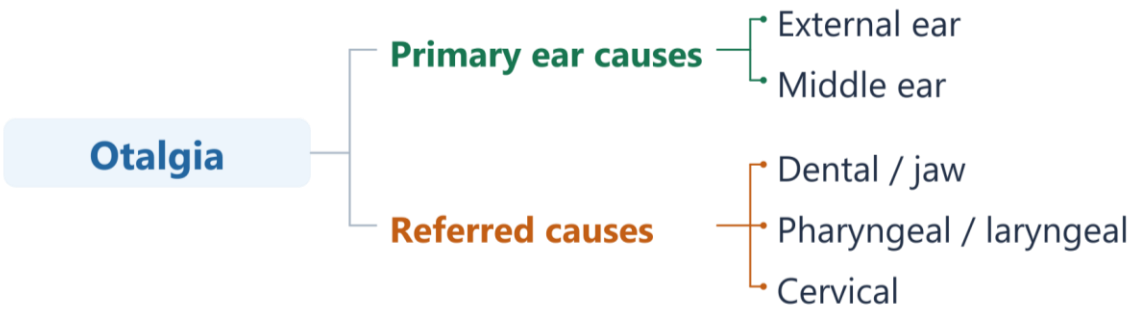
ENT - Topic 4 - Management of Diseases of Ear, nose and throat

Otalgia



Primary and Referred Pain

Definition

- **Otalgia** means pain felt in the ear, but its source may lie outside the ear.

Primary Otalgia

- Primary otalgia commonly results from otitis externa, acute otitis media, trauma or a foreign body.

Referred Otalgia

- Shared sensory pathways allow disease in the teeth, jaw joint, pharynx or larynx to cause **referred otalgia**.
    - The relevant pathways include cranial nerves V, VII, IX and X and upper cervical nerves.

Assessment and Management

History and Examination

- Ask about discharge, hearing loss, fever, chewing pain, swallowing difficulty and previous ear disease.
- Inspect the pinna, canal, tympanic membrane and mastoid region before examining the mouth, throat and neck.
- Pain on moving the pinna or pressing the tragus supports external-canal inflammation.

Warning Features

- Persistent unilateral pain with a normal ear examination requires assessment for a referred source, including malignancy.
    - Weight loss, a neck mass, tobacco exposure or painful swallowing increases concern.

Initial Management

- Provide suitable analgesia and treat the identified cause instead of repeatedly prescribing ear drops without a diagnosis.

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Differentiating Important Causes

A. Pain Arising in the Ear

- Diffuse canal swelling and marked tragal tenderness favour otitis externa, whereas a bulging membrane favours acute otitis media.
- Pain with grouped vesicles and facial weakness suggests herpes zoster involving the facial nerve.
- Pain out of proportion to a modest canal abnormality in a person with diabetes raises concern for invasive external-ear infection.

B. Referred Pain

- Pain provoked by chewing may arise from dental infection or the temporomandibular joint.
- Pain on swallowing can arise in the tonsil, tongue base, hypopharynx or larynx through shared sensory innervation.
- Cervical spine disorders, including degenerative disease, can also cause referred ear pain.
- Assess neck symptoms and movement when the ear examination is normal and the history suggests a cervical source.
- Inspect the upper aerodigestive tract and neck when the ear itself appears normal, particularly with persistent unilateral symptoms.

Choosing Investigations

- Uncomplicated otalgia with a clear local cause is often diagnosed clinically.
- Audiometry is useful when hearing is affected, while imaging or endoscopy is selected for suspected deep infection, tumour or an unexplained referred source.
- A normal ear examination is a reason to investigate the pain pathway further, rather than proof that the pain is imaginary.

Eagle Syndrome as a Cause of Referred Throat and Ear Pain

- **Eagle syndrome** is a symptomatic disorder associated with an elongated styloid process or ossification of the stylohyoid ligament.
- Many people have an elongated styloid process without symptoms, so an imaging finding alone does not establish the diagnosis.

Clinical Features and Diagnosis

- Typical symptoms include persistent throat pain, a foreign-body sensation, dysphagia and referred ear pain.
- Swallowing or turning the head may aggravate the pain.
- Palpation of the tonsillar fossa may reproduce the patient's familiar pain.

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- CT, often with three-dimensional reconstruction, defines the abnormality and its relationship to nearby structures.
- The clinician must exclude dental disease, neuralgia, infection and head-and-neck malignancy when appropriate.
- Rare vascular presentations result from a close relationship with the carotid artery and need specialist evaluation.

Management

- Initial treatment can include analgesia and selected treatment for neuropathic pain.
- Persistent, well-localised symptoms may improve after styloidectomy through a suitable intraoral or external approach.
- Counselling includes the possibility of incomplete relief and the nearby nerve and vascular risks.

Trigeminal Neuralgia

- Trigeminal neuralgia produces recurrent brief electric-shock-like unilateral facial pain in one or more trigeminal divisions, commonly V2 or V3.
- Attacks may be triggered by light touch, chewing, speaking or brushing the teeth, with relatively pain-free intervals between attacks.
- Classical disease is often associated with neurovascular compression, while secondary disease can occur with multiple sclerosis or a structural lesion.

Assessment and Treatment

- Examine cranial nerves and exclude dental, temporomandibular and other facial pain causes; sensory loss or other neurological abnormalities raise concern for secondary disease.
- MRI is used to investigate structural causes and assess relevant neurovascular anatomy.
- Carbamazepine or oxcarbazepine is commonly used as first-line drug treatment, with monitoring for adverse effects and interactions.
- Refractory disease may be treated with microvascular decompression, stereotactic radiosurgery or selected percutaneous procedures after specialist review.

Disorders of the External Ear

Preauricular Sinus

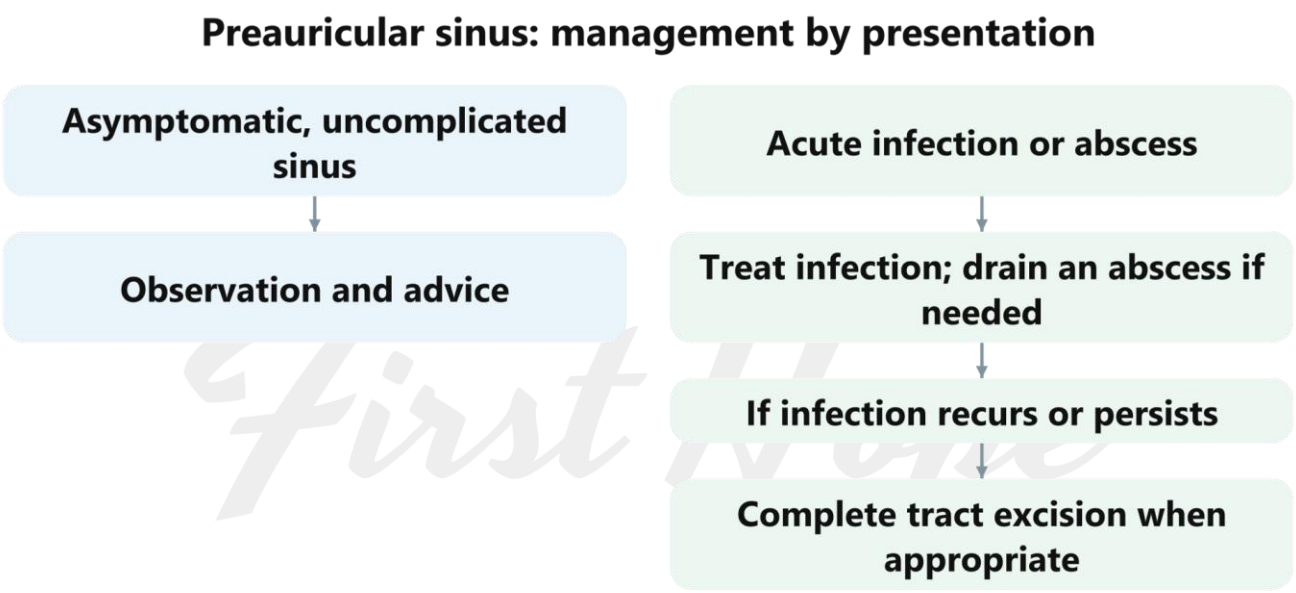
- A **preauricular sinus** is a congenital epithelial-lined tract with a small opening, usually near the anterior root of the ascending helix.
- It is classically attributed to abnormal fusion of the auricular hillocks derived from the first and second pharyngeal arches.

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Presentation and Associated Findings

- Most pits are asymptomatic, but retained material can produce intermittent discharge, cellulitis or a recurrent preauricular abscess.
- The tract may branch, so treating only the visible opening does not remove the whole lesion.
- Examine for other ear or neck anomalies and arrange the usual hearing assessment.
- A pit with hearing loss, a branchial anomaly or a relevant family history may suggest branchio-oto-renal syndrome and merits targeted evaluation.
- An isolated pit does not automatically require renal imaging in every child.

Management



- An uncomplicated asymptomatic sinus can be observed with advice about infection.
- Acute infection is treated with appropriate antibiotics, and an abscess may need specialist drainage.
- Repeated or persistent infection is an indication for complete tract excision, usually after acute inflammation has settled.
- Incomplete removal of branches is an important cause of recurrence, and follow-up also assesses wound infection and scarring.

Diffuse Otitis Externa

Predisposition, Features and Organisms

- Moisture, instrumentation and skin disease can damage the protective canal barrier.
- Bacterial otitis externa commonly causes canal pain, itching, discharge and swelling.
    - Pseudomonas and Staphylococcus species are common bacterial causes.

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Local Treatment and Systemic Antibiotic Indications

- Careful cleaning under vision and appropriate topical treatment are the main treatments for uncomplicated disease.
- A swollen canal may need a wick to deliver drops, placed by a trained clinician.
- Keep the ear dry and avoid scratching or inserting cotton buds.
    - Use a non-ototoxic preparation when the tympanic membrane is perforated or cannot safely be assumed intact.
- Systemic antibiotics are reserved for selected situations, such as spreading infection or important host risk factors.

Localised and Fungal Disease

1. External Auditory Canal Furuncle

- A **furuncle** is an infected hair follicle in the outer cartilaginous canal and causes sharply localised pain.
- A fluctuant abscess may require drainage in addition to appropriate treatment.

2. Otomycosis

- **Otomycosis** commonly causes itching with fungal debris in the canal.
- Careful removal of debris, keeping the ear dry and an appropriate antifungal preparation help control fungal disease.

Treatment Precaution

- Avoid blindly introducing treatment when a perforation or another ear disorder is present.

Pinna Disease and Necrotising Otitis Externa

Perichondritis of the Pinna

- Perichondritis causes a painful, swollen pinna and can follow trauma or cartilage piercing.
- The lobule may be relatively spared because it contains no cartilage.
- Prompt treatment and drainage of an abscess help prevent cartilage destruction.

Necrotising Otitis Externa

- **Necrotising otitis externa** is an invasive infection that can spread to the skull base.
- Severe persistent or nocturnal ear pain in an older patient with diabetes or immune suppression is a warning sign.
- Granulation tissue and a new cranial-nerve palsy increase concern.
- Urgent specialist assessment includes microbiology, imaging and systemic treatment directed at the organism and extent of disease.

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