KERATOSIS OBTURANS

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Background Information

Definitions of levels of care (in this guideline)

- Level 1: Community healthcare worker/non-doctor
- Level 2: Medical doctor
- Level 3: ENT Surgeon

Keratosis obturans (KO) is a rare condition of the external auditory canal (EAC) defined by accumulation of keratinaceous material in a lamellar arrangement that leads to dilation and blockage of the ear canal[1]. It is commonly confused with impacted cerumen[2]. The characteristic clinical features include severe otalgia and hearing loss due to the collection of a desquamated epidermal plug in the ear canal[3].

Keratosis obturans and external auditory canal choleasteatoma are sometimes wrongly interchanged for each other, however, there is a difference. Keratosis obturans typically manifests in a younger population group and presents with acute conductive hearing loss, severe otalgia due to accumulation of keratin in the ear canal, a widened ear canal, and a thickened tympanic membrane, whereas patients with external ear canal cholesteatoma present with otorrhea and chronic dull unilateral ache secondary to the invasion of squamous tissue into a localised area of inflammations in the external auditory canal[4,5].

Diagnosis

History/Predisposing factors:

- 40 years old or younger
- History of bronchiectasis or sinusitis[6]

Symptoms:

- Ear fullness
- Conductive hearing loss
- Severe otalgia
- Ear discharge (rare)

Physical Examination:

- The accumulation of keratin debris clumps in the EAC
- Wide remodelling of the EAC
- Thickened tympanic membrane

Examination and Investigations

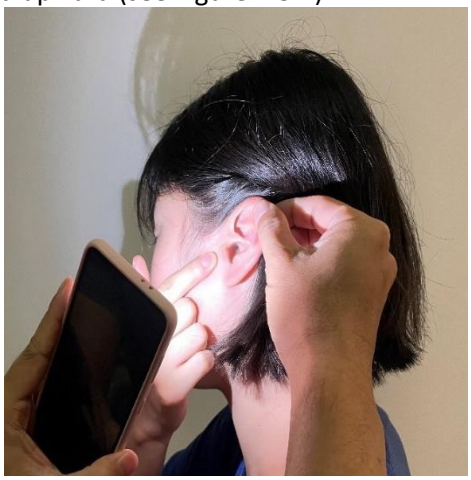
General:

- Keratosis obturans could be misdiagnosed for impacted ear wax and this would derail the management and its outcome.

- Keratosis obturans should be distinguished from external auditory canal cholesteatoma since it has similar clinical features but a different treatment strategy[7].
- Keratosis obturans is commonly found bilaterally.

Level 1:

- Ask the patient to gently pull the tragus anteriorly with finger to open the EAC and at the same time the examiner should pull the pinna backward and upward (see Figure 1.3.1).
- You may use any light source to examine the EAC (e.g.; torch light, pen light, cellular phone light, lantern or sunlight).



Level 2:

- Otoscopy should be performed with an otoscope.

Level 3:

- Oto-microscopy or oto-endoscopy should be performed.
- Pathological examination should be performed of the biopsied material.
- A temporal bone CT scan may be considered in order to aid in distinguishing differential diagnoses (e.g.; external auditory canal cholesteatoma, tumoral temporal bone invasion).

Management

General:

- Treatment of KO in the form of removal of desquamated squamous epithelium[7].
- As a chronic disease process, KO requires life-long surveillance and serial debridement to improve external auditory canal patency and provide serviceable hearing[8].
- KO produces distinctive smooth widening of the canal wall, with the lesion minimally invading adjacent structures. Conservative treatment with meticulous cleaning of the lesion is successful in most cases with long-term follow-up.
- Otic drops consisting of olive oil, hydrogen peroxide, corticosteroids and bicarbonate would be helpful for soften EAC obstruction prior to debridement[8].

Level 1:

- If keratin is blocking the EAC, try to evacuate as much keratin debris as possible without damage to the EAC.
- If incomplete removal was performed send to a level 3 centre.
- After removal of KO, the patient's EAC should be routinely checked.

Level 2:

- An attempt at removal of KO should be performed.
- Following treatment, local corticosteroid ear drops have an important role in reducing inflammation[9].

Level 3:

- KO should be removed meticulously under oto-microscopy or oto-endoscopy with a suction apparatus.
- Debridement may be performed under general anaesthesia[7].
- Topical treatment of KO with miconazole/triamcinolone 0.1% crème gauzes in the ear canal could be considered as a treatment option for patients diagnosed with recurrent KO[10].

Further reading

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