EAR WAX

Alternative names: Cerumen impaction

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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

Cerumen, or 'wax' as it is commonly known, is a normal secretion of the ceruminous and sebaceous glands mixed with dead skin tissues in the external auditory canal. It is generally thought to be protective to the ear. It is slightly acidic, contains lysozymes and immunoglobulins associated with the bactericidal qualities[1]. It is also the primary reason why the external auditory canal (EAC) can become obstructed. While often harmless, blockage of the EAC by cerumen can lead to a host of symptoms: ear fullness, hearing loss, tinnitus, itching, otalgia, discharge, foul odour and cough[2]. Normally, cerumen is eliminated or expelled by a self-cleaning mechanism, which causes it to migrate out of the EAC assisted by jaw movement[3].

Diagnosis

History/Predisposing factors:

- Self-ear cleaning
- Using cotton buds
- Old age
- Developmentally delayed
- Ear plugs, hearing aid users
- Otological surgery
- Anatomical ear canal abnormalities (narrow canal, exostoses and osteoma)
- Local radiation therapy (osteoradionecrosis)

Symptoms:

Main symptoms

- Ear fullness
- The main complaint is ear blockage following a shower or swimming.
- Hearing impairment
- Tinnitus

Possible symptoms

- Itching
- Otalgia
- Discharge
- Foul odour
- Cough

Physical Examination

- Black/dark brown/yellow /dark orange chunky materials obstructing the EAC partially or totally.

Examination

General:

- The EAC examination should be performed to diagnose cerumen impaction.
- Gently pull the pinna backward and upward in order to examine the EAC with a light source (see Figure 1.2).

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.
- 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 to diagnose cerumen impaction.

Level 3:

- Oto-microscopy or oto-endoscopy should be performed.
- In case of recurrent cerumen impaction, please check possible predisposing factors (see diagnosis section).

Management

General:

- Understand cerumen (earwax) is normal. If earwax is not causing symptoms the ear should be left alone.
- Prior to examination of the EAC it is essential to talk to the patient and / or their caretaker to obtain a detailed history and provide explanation of any procedure(s) performed. The patient as well as the caregiver should be fully informed of possible complications of the procedure and effects of ear irrigation, to ensure that the patient understands and gives consent[2].
- Medical personnel should explain proper ear hygiene to prevent cerumen impaction.
- Don't use cotton buds for ear cleaning in the EAC.

- Don't put anything in the EAC except prescribed/recommended ear drops by a physician when needed.
- Interventions that are not appropriate for cerumen removal include home use of oral jet irrigators and cotton-tipped swabs.

- The most popular alternative practice for cerumen removal is ear candling, also known as “ear coning” or “thermo-auricular therapy.” This is ineffective and potentially dangerous and should not be used to make practitioners and patients aware of the ineffectiveness and risks associated with ear candling/coning for cerumen removal[4].

Level 1:

- Following patients’ ears assessment and examination, if impacted wax is the problem advice needs to be given to the patient/ and or care giver regarding wax softening prior to further procedures being carried out. This is to promote patient safety by reducing risk of procedures, and increasing likelihood of successful wax removal[2].
- There is no evidence to confirm that any one wax softening agent is superior to another. Even normal saline has similar effects for wax softening[5].
- Advise patient/ care giver on the use of wax softener. Instil in the EAC: 2-3 drops, pump the tragus (repeatedly push it in and out) to spread the wax softener in the ear canal, 2-3 times/day, for a minimum of 5-7 days[1].
- Advise patient to lie on the unaffected side, if possible, while wax softener is inserted, and to remain on their side for 5 minutes[1].
- Advise patient not to put cotton wool into the EAC following instillation of wax softener, as the cotton wool absorbs the drops which could lead to ineffective treatment[1].
- The patient should be re-assessed, and ears re-examined after 5-7 days, and consider if any further intervention is required.
- If you can’t remove the impacted cerumen, you should refer to another clinician who can treat cerumen impaction when identified.

Level 2:

- See level 1
- Ear irrigation is a widely practised form of cerumen removal and can be performed with a syringe. There is general consensus that ear irrigation is effective in removing cerumen[2].
- Ear irrigation should not be performed in individuals who have a perforated tympanic membrane or those who have had ear surgery, since the tympanic membrane may be thinned or atrophic and vulnerable to perforation[6].
- Also, ear irrigation should be avoided in individuals with anatomic abnormalities of the canal (congenital malformations, osteomas, exostoses, scar tissue, etc) that might trap saline in the external auditory canal following irrigation[7,8]. Manual removal under guidance (level 3) is recommended for those with anatomic abnormalities.
- Following cerumen removal with ear irrigation, the ear canal and ear drum should be re-evaluated with an otoscope whether any damage of ear drum or another pathology of the ear.
- The main complications reported after ear irrigation are pain, injury to the skin of the ear canal with or without haemorrhage, and acute otitis externa. Commonly reported significant complications are tympanic membrane perforation (0.2%) and vertigo (0.2%)[9].
- Symptoms of complications include sudden pain, tinnitus, hearing loss, bleeding, dizziness or water coming out of the patient’s nose. If a patient experiences any of these symptoms, the provider should immediately stop[10].

Level 3:

- Clinicians should assess the patient with cerumen impaction by history and/or physical examination for factors that modify management such as one or more of the following:

non-intact tympanic membrane, ear canal stenosis, exostoses, diabetes mellitus, immunocompromised state, or anticoagulant therapy[2].

- Clinicians should remove the impacted cerumen with one or several combinations of cerumenolytic agents, ear irrigation and manual removal with specialised instruments.
- If the patient has a perforated tympanic membrane, active otitis externa, history of ear surgery, narrowed ear canal or osteoradionecrosis, clinicians should consider suctioning of the cerumen rather than ear irrigation.

Further reading

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