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Onion Skin in the Ear Canal: Keratosis Obturans

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Dear Editor,

The manuscript published in December 2022, entitled "Keratosis obturans" in the "image" section, particularly attracted the authors' attention.[1] The unpleasant symptoms caused by this pathology are relatively uncommon in otolaryngology practice. Keratosis obturans (KO), historically mistaken for molluscum contagiosum, was first described by Wreden of St. Petersburg over two centuries ago.[2] It represents an obscure otological entity characterized by a buildup of desquamated keratin in the bony portion of the external ear canal. Intriguingly, the densely packed keratin squamous cells often align in a lamellar pattern, resembling an "onion skin" appearance under microscopy.[3]

The etiology of KO remains unclear, with several theories proposed. The disease is believed to result from a faulty migration of the external auditory meatus (EAM) epithelium, excessive production of epithelial cells, and a loss of the self-cleaning mechanism of the external ear.[2] Morrison, on the other hand, hypothesized that the epidermal clogging of the ear canal resulted from reflex stimulation of the sebaceous gland by the autonomic sympathetic nervous system, after observing instances of KO in patients with bronchiectasis and chronic rhinosinusitis.[2,4] KO can be categorized into the inflammatory type, where a transient change in EAM epithelial migration arises from soft tissue infection or irritation, and the silent type, where there is an abnormal separation of the keratin in the absence of inflammation.[4]

The disease is prevalent in the younger population and often affects both ears. Hearing impairment accompanied by varying degrees of otalgia is its characteristic feature, though not pathognomonic.[3] Otorrhea and facial nerve dysfunction, on the other hand, are rarely reported.[5] It is vital to distinguish KO from canal cholesteatoma, as the latter can have severe complications. Diagnosis is typically clinical, with otoscopy revealing dense keratin clumps within the EAM and circumferential bony canal widening. Granulation tissue may appear during inflammation.[2,5] Computerised tomography is rarely performed but may reveal homogenous soft tissue density, often in both ears, in the EAM with resultant ballooning of the remodeled bony canal.

Treatment for keratosis obturans involves removing the keratin plug to reduce the symptoms. Various oil or water-based otic drops can soften the plug before its removal.[2] Sometimes, an assessment under a microscope with exenteration under general anaesthesia is deemed necessary for both diagnostic and therapeutic purposes. Regular check-ups and frequent ear cleaning may be essential to prevent recurrence.

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