



Otoacariasis: An Infestation of Mites in the Ear

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Abstract

Background: Otoacariasis is the infestation of arthropods of the Acari subclass in the ear canal. A few reports of mite infestations in the human ear exist in the literature.

Case Report: A 58-year-old man presented with bilateral tinnitus and itching. Oscopic examination revealed mite infestations in both ears. The infestation was cleared with otic 2% acetic acid solution.

Conclusion: We report the rare case of an infestation of mites and their eradication with otic acetic acid drops.

Introduction

Accidental entry of a foreign body in the ear canal is a common occurrence in an otolaryngology practice. Otoacariasis is a very peculiar and rare variant of this condition wherein the foreign body in question is an arthropod of the Acari subclass, be it a mite or a tick [1]. The literature reports a relatively frequent incidence of animate foreign bodies in the human ear, particularly ticks [2-5]. Mite infestations in the human ear on the other hand, is an extremely rare phenomenon [1,6], with a handful reported cases since 1977 [1,6-8]. The most common presenting symptoms are usually itching, otalgia and a foreign body sensation. Otorrhea, evidence of otitis externa and tinnitus are less frequent presentations. Treatment consists of relieving the patients of their itching and pain, by killing the infesting mites. Suggested methods include washing the ear canal with warm saline, instilling mineral oil, lignocaine or 70% ethanol [1,4,6]. Scabicial substances like crotamiton [1] can also be used.

Case Presentation

A 58-year-old male patient presented to the otology clinic with the chief complaint of tinnitus in the left ear of one month duration. He describes the tinnitus as sudden, persistent and of the buzzing type. The patient also reported mild ear itching bilaterally. There was no subjective hearing loss, recent noise exposure, otalgia or ear discharge. The patient had undergone tympanoplasty twice in the right ear with a canal wall down procedure. On otoscopic examination, crawling mites were observed filling the left external auditory canal. The ear canals were slightly erythematous, but otherwise dry (Figure 1). The right ear showed a wet and inflamed mastoid cavity with granulation tissue. It also was littered with mite eggs and adult mites (Figure 2). Both ears were syringed with warm saline. He had mild vertigo while syringing the right ear. A thereafter topical acetic acid ear drop (2%) was applied for 2 weeks. Otoscopy at follow-up clinic 2 weeks after the commencement of treatment showed complete eradication of the mites in both ears.

Discussion

Mite infestation in the human ear is an extremely rare phenomenon. Storage and dust mites are implicated in a significant number of cases reported in the literature [6]. We could not recover any of the mites from the ear canal to conduct a closer examination. The video-otoscopic examination however clearly revealed mites in the dozens, translucent, crawling in both external ear canals and in the right wet mastoid cavity. We obtained the expert opinion of the parasitologist at our Medical Center to further identify the mites. The typical ovoid, smooth, translucent body and the four pairs of legs are reminiscent of the *Chortoglyphidae* or *Acaridae* families of mites. A tentative classification of the observed mites would be *Chortoglyphus Arcuatus*, based on the work of Colloff and Spiekma [9] (Figure 3). *Chortoglyphus Arcuatus* is a storage mite frequently found in barns and food storage sites, but can also be found in house dust samples all around the world [10]. Our patient did not have any significant travel or workplace history. It is very plausible to speculate that the source of contamination is mite-infested furniture at home. It is clear from their great number and the

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Figure 1: Erythematous right auditory canal with numerous mites swarming around.

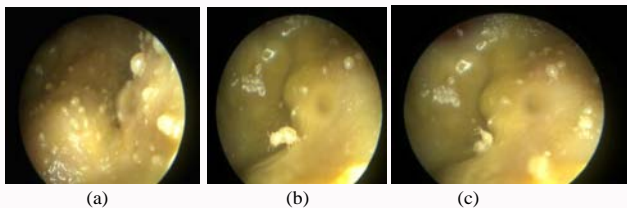
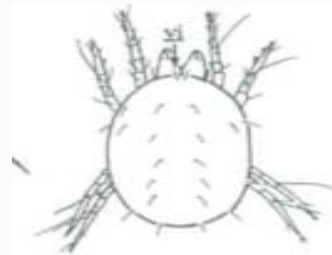


Figure 2: (a) Left Inflamed wet ear littered with mites. (b,c) Shows two mites stuck together.

presence of eggs that the mites were able to survive and reproduce in the ear canal rich in shed skin and keratin. Obviously, the wet mastoid of the right ear cavity is not a reason for the presence of the mites since the other ear is dry and intact. It is certainly odd that the patient presented with tinnitus, an infrequent presentation. Indudharan “et al.” [4] explain how the presence of a tick in the ear can cause tinnitus and even facial nerve paralysis by releasing neurotoxins [4]. The mechanism behind our patient’s tinnitus might be akin to that hypothesis, although there’s no evidence for it in the literature. While there’s no established treatment for intra-aural mites, it seems that the common strategy consists of submerging them in warm saline or ethanol. The literature also mentions other treatment modalities from scabicide ointments [1] to topical hexachlorocyclohexane [7]. Acetic Acid (2%) otic solution seems to have worked successfully in the eradication of mites in our patient, and we are suggesting its usage as a treatment modality.

Conclusion

We report the case of a 58-year-old man who presented with bilateral tinnitus and ear itching. Further otoscopic examination revealed infestation of mites in both ears. The mites were storage mites or the *Chortoglyphidae* family and were successfully eradicated with otic 2% acetic acid drops.



Family: **CHORTOGLYPHIDAE**
Isp.: *Chortoglyphus arcuatus*

Figure 3: Pictorial representation of *Chortoglyphidae* mites from Colloff and Spieksma.

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