

CASE REPORT / OLGU BİLDİRİSİ

Aural myiasis in a patient with chronic otitis media

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Kronik otitis medialı bir hastada aural myiasis

Seksen iki yaşındaki erkek hasta kliniğimize sol kulağında ağrı ve kanama şikayeti ile başvurdu. Otoskopik muayenesinde sol dış kulak yolunun hemorajik olduğu izlendi. Kötü kokulu pürülan akıntıdan kültür alındı. Dış kulak yolu aspire edildikten sonra orta kulak boşluğunda canlı larvalar görüldü. Mikroskop ve forseps yardımıyla 14 tane canlı larva dışarı alındı. Parazitoloji laboratuvarına gönderilen larvaların *Wohlfahrtia magnifica*'nın 3. evre larvaları olduğu tespit edildi.

Anahtar Sözcükler: Myiasis, Kronik Otitis Media, *Wohlfahrtia magnifica*.

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Abstract

An 82-year-old man referred to our clinic with the complaints of bleeding and severe pain on his left ear for 4 days. On otoscopic examination, the left external ear canal was observed to be hemorrhagic. There was foul-smelling purulent discharge. Foul-smelling purulent discharge was included in the culture. After aspiration of the external ear canal live maggots were seen in the middle ear. With the help of a microscope, 14 larvae were removed out of the left middle ear. The extracted larvae were observed to be alive. The larvae were determined to be *Wohlfahrtia magnifica* in the 3rd stage by Parasitology Laboratory.

Key Words: Myiasis, Chronic Otitis Media, *Wohlfahrtia magnifica*.

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Introduction

Invasion of tissues and organs in humans and animals is called myiasis. Aural myiasis is a rare clinical state and occurs frequently in children. It is also frequently seen in adults especially those who are mentally retarded.^{1,2} Myiasis of the otolaryngological cavity usually occurs from neglected chronic lesions (such as neglected chronic suppurative otitis media) of the patients with poor personal hygiene.³ Most of the identified causative agents belong to Sarcophagidae family. Among the Sarcophagida species, *Wohlfahrtia magnifica* is frequently seen as a causative agent of various types of myiasis in the Mediterranean Basin, Southern Russia, Turkey, Israel and the Middle and Far East.^{3,4} *Wohlfahrtia* is obligatory parasite, whose larval stages can occur only in the living tissues of animal or human hosts.⁵

Myiasis are classified as obligatory, voluntary and coincidental according to agent character. The fly larvae which cause myiasis can live as parasites in skin, subcu-

taneous tissue, soft tissues, mouth, stomach, intestines, urogenital system, nose, ears and eyes.^{1,2}

Myiasis is rarely seen in middle ear, but this possibility always exists. Aural myiasis has a wide clinical spectrum, from maggots in the ear to otalgia, otorrhea, perforation of the eardrum, bleeding, itching, tinnitus, furuncle of the external ear and restlessness.⁶ We report the larval infestation of *Wohlfahrtia magnifica* in the left middle ear of a man with chronic suppurative otitis media who had poor hygiene conditions in Konya, Turkey.

Case Report

A 82 years old man was referred to our clinic, with history of discharge, pain, bleeding of his left ear for 4 days. He also gave history of persistent ear discharge and progressive deterioration of hearing in the same ear. Complaints of intermittent ear discharge was happening from time to time. His systemic examination was normal and he was not suffering from diabetes or any immunocompromised state. He belonged to a low socioeconomic status and had unhygienic living conditions. Otoscopic and microscopic examination revealed maggots and foul smelling purulent discharge in his left external ear canal (Figure 1). There were no maggots or lesion in his right external ear canal. Foul-smelling purulent discharge on external ear canal was included in the culture. After aspiration of the outer ear canal and middle ear cavity it was seen that eardrum was perforated and middle ear mucosa was hypertrophic and moistened. Pure tone audiometric analysis showed mild conductive hearing loss due to chronic otitis media on the left ear.



Figure 1. Live maggots in the external ear canal by microscopic examination.

Maggots were removed under the light microscopic field from the middle ear. The external auditory canal was washed with normal saline. Fourteen visible living maggots were manually removed from the middle ear with the help of forceps. The maggots were approximately 5-12 millimeters length (Figure 2). The maggots removed from middle ear were fixed in 70% alcohol and sent to the Parasitology Laboratory. The maggots were identified as the third stage larvae of *Wohlfahrtia magnifica* (Diptera: Sarcophaginae). Patient was managed with antibiotic/steroid ear drops topically initially along with intravenous antibiotics. Pus culture revealed *Pseudomonas* which was managed by intravenous as well as topical antibiotics as per its sensitivity report. Patient was examined under a microscope every day. There were no maggots in the middle ear.

After removing the maggots from the middle ear, a radiographic examination (temporal computed tomography, CT) was performed to evaluate the peripheral tissues. CT detected a decrease of aeration and soft tissue density corresponding with pus on the left side. On the right side, the structures of the middle ear area, ossicles and internal auditory canal were evaluated as normal.

There were no maggots or discharge in the following examinations in one week. The patient was discharged with oral ciprofloxacin after the infection was controlled. The patient was seen at the end of first month and there were no maggots in middle ear and external ear canal.

Discussion

Myiasis occurs predominantly in rural areas and is associated with poor hygienic practices and low ed-



Figure 2. Maggots after removal from middle ear.

ucational level.⁷ In our case the patient was living in a rural area. He had a low socio-economic status and poor hygiene.

The larvae of *W. magnifica* are obligate parasites maturing within 4-7 days especially in body orifices and wounds of the host.⁸ Due to the fact that the larvae leave their host when they are fully matured, myiasis is a self-limiting disease, but it should keep in mind that severe and fatal complications can occur. Infestations of the ears are extremely dangerous when the larvae penetrate the brain, in which case the fatality rate can be as high as 8%.⁹⁻¹² In our case, maggots were localized in the middle ear, and although the area was suppurative and edematous there was no evidence of surrounding tissue destruction.

The clinical symptoms of aural myiasis could show a wide spectrum of symptoms; from silent infestation to otalgia, otorrhea, perforation of the tympanic membrane, bleeding, itching, mechanical sound, tinnitus, furuncle of the external ear and hearing impairment.^{13,14} In our case, the major symptom was the purulent and particularly hemorrhagic secretion, which is common in suppurative chronic otitis media, otalgia and aural itching.

Aural myiasis generally occurs in neglected chronic disease such as untreated chronic suppurative otitis media in patients with poor personal hygiene in the otolaryngological cavity.¹⁵ In this case, there was suppurative chronic otitis media in left ear and patient had poor hygiene conditions.

The treatment of aural myiasis is simple in the early manifestation stage, such as removal of maggots and cleaning lesion with 70% ethanol, 10% chloroform, oil drops, urea dextrose, creatine, topical ivermectine and iodine saline or normal saline. However, they have controversial results.^{15,16} If the tympanic membran is perforated, cleaning with normal saline and concomitant suction will be appropriate.¹⁵ In our case, normal saline

irrigation and concomitant suction were performed and antibiotics were given for suppurative chronic otitis media.

In conclusion, in case of otalgia, otorrhea, bleeding, itching, and hearing impairments, the patient should be also examined for aural myiasis, which if located in the middle ear could lead to intracranial complications.

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Conflict of interest statement:

No conflicts declared.

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