Aural Myiasis by Wohlfahrtia magnifica: Case Report

Wohlfahrtia magnifica’nın Neden Olduğu Kulak Miyazı: Olgu Sunumu

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Abstract

A 5-year-old child living in Erzurum, Turkey, complaining of otalgia, otorrhea and pruritus in the right ear for three days, was examined. Otoscopic examination at the Department of Otorhinolaryngology revealed live maggots in the external auditory canal. Ten maggots were recovered and were identified as third stage larvae of Wohlfahrtia magnifica (Diptera: Sarcophagidae). Local and systemic antibiotic therapies were applied. No pathological findings were present at the follow-up examination after 15 days of therapy.

Keywords: Myiasis, Diptera, Wohlfahrtia magnifica, Otalgia, Otorrhea

Özet


Anahtar Kelimeler: Miyaz, Dipter, Wohlfahrtia magnifica, Kulak ağrısı, Kulak akıntısı
Introduction

Myiasis is the infestation of tissues and organs of animals and humans by the larvae of certain dipterous flies. It is a worldwide infestation with seasonal variation. Higher incidences occur in the tropics and subtropics of Africa and the Americas. The disease-producing flies prefer a warm and humid environment; thus, myiasis is restricted to the summer months in temperate zones, while occurring year-round in the tropics [1].

Etiologically, myiasis can be classified into 3 groups, depending on the condition of the involved tissue. These groups are obligatory agents (only present in the living tissue of animal or human hosts), facultative agents (present in either decomposing or living tissues) and accidental agents (egg-stage flies ingested with contaminated food or coming in contact with the genitourinary tract). Wohlfahrtia is obligatory parasite, whose larval stages can occur only in the living tissues of animal or human hosts [2]. Myiasis is rarely seen in the external auditory canal (EAC), 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 [3]. We report the larval infestation of Wohlfahrtia magnifica in the right external auditory canal of a child in Erzurum, Turkey.

Case Report

In August 2008, a 5-year-old male with his father was referred to the Department of Otorhinolaryngology with complaints of otalgia, otorrhea and itching in the right ear for three days. Otoscopic examination revealed live maggots in the ear canal. Ten visible living maggots were manually removed with the help of clinical forceps. The maggots were approximately 12-14 millimeters long. No other pathological findings were observed upon physical examination of the boy.

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

Description:

The maggots removed from the ear canal were fixed in 70% alcohol and sent to the Laboratory of Medical Microbiology. Morphological examination of the larvae revealed that they were members of the family Sarcophagidae. Definitive identification of the larvae was realized through collaboration with the Department of Microbiology and Clinical Microbiology, Faculty of Medicine and Plant Protection Department and the Agricultural Faculty at Ataturk University.

The larvae sizes, as measured by stereomicroscopic examination, were between 1.2-1.4 cm in length and 0.1-0.3 cm in width. Figure 1 shows an image of a Wohlfahrtia magnifica larva.

The cephalopharyngeal skeletons (Figure 2) and posterior peritrem of the larvae were dissected under the stereomicroscope. For detailed investigation of the organelles, preparations were made with Canadian balsam and examined under a light microscope. Microscopic examination of the cephalopharyngeal skeleton and posterior peritrem revealed that the maggots were third phase larvae of the fly Wohlfahrtia magnifica (family Sarcophagidae).

Discussion

Wohlfahrtia magnifica larvae infest the ear, eye and nose, damaging living tissues. It is found in southeastern Europe, southern and Asiatic Russia and the Mediterranean basin [4]. The infestation is most often subcutaneous and produces a furunculous or boil-like lesion, but it is also known to occur in wounds
and certain body cavities [2]. Aural manifestations have been reported in neglected chronic lesions of patients with poor personal hygiene, children and mentally retarded adults [5,6]. The most common sign and symptoms of aural myiasis are maggots in the EAC, aural malodorous otorrhea (purulent secretion in the EAC), perforation of the tympanic membrane, bleeding, hearing impairment, otalgia and pruritus [3,6,7].

Our patient was a 5-year-old child and a member of a socio-economically poor family living in the country. He was suffering from otalgia, otorrhea and itching in the right ear for three days. Aural malodor and purulent secretion were detected upon physical examination of the right external ear canal. Otoscopic examination revealed live maggots in the EAC. Orbital, ear and nasal myiasis can cause extensive necrosis and tissue destruction and require immediate removal of the infestation. Although myiasis is a self-limiting disease (maggots leave their host when they are fully mature), it can be associated with severe and sometimes fatal complications [2,6,8-10].

To treat this patient, maggots were removed, the external auditory canal was irrigated with physiologic saline, and local and systemic antibiotic therapies were applied. No pathological findings were present at the examination made after 15 days of therapy.

Conflict interest statement The authors declare that they have no conflict of interest to the publication of this article.

References