

Case Report

Auricular *Myiasis* in Children: Case Report of Unexpected Foreign Bodie

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Abstract

Myiasis is the invasion and feeding on living tissues of humans or animals by fly larvae; The aural myiasis is not a common infestation, rare in adults but frequent in children with neglected chronic suppurative otorrhea and poor personal hygiene.

The most common pathological symptoms of aural *myiasis* are otalgia and otorrhea, the diagnosis is usually through physical examination, and rarely through diagnostic images. There are no published guidelines for diagnosis or treatment of this disease.

We report a case of a child with aural *myiasis*, living in a rural area in Casablanca morocco, with a maggot at the right ear; in treatment a combination of maggot extraction, Saline irrigation, concomitant suction and 3 mg of ivermectine were administrated with an encouraging results.

Introduction

The term *myiasis* is derived from the Greek word “*myia*” meaning fly, was first created by Hope (1840). This term referred to the only clinical manifestations caused in humans by dipterous larvae (maggots), as opposed to those caused by insect larvae in general. [1] Subsequently, the meaning of the word has been extended to animal infestations which are also the more frequent because these larvae are essentially animals parasites and occasionally provoke human *myiasis*.

Auricular *myiasis* presents a rare and a unique clinical entity, it is rare in adults but frequent on among children; only a small number of

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case series have been reported [2]. Humans represent only a target of opportunity; it is frequent in rural and slum areas where unhygienic conditions are prevalent. Therefore, there is a Lack of available evidence to guide management of this disease [3]. We report a rare case of auricular *myiasis* on a child with immune deficiency history.

Case Report

A 2 years and 6 months old girl presented with a 2 years' history of chronic right ear otorrhea. The mother reports the notion of fever and otorrhea 6 months after birth, for which the girl has been hospitalized for 3 months in the infectious disease department, where the diagnosis of immune deficiency was evoked. (Blood Cell Count (CBC), Measurement of Oxidative Burst in Neutrophils, Expression of HLA-DR antigens, and immunologic tests were normal) different courses of oral and local antibiotics had been previously prescribed but were ineffective.

The girl has been referred to our ENT department for a complementary care management. The girl was admitted with the complaint of chronic otorrhea, otalgia and itching in the external auditory canal. The mother reported the extraction of maggots from the external auditory canal. CT scan showed a filling of the external auditory canal, middle ear and the mastoid cells without any bone lysis (Figure 1).

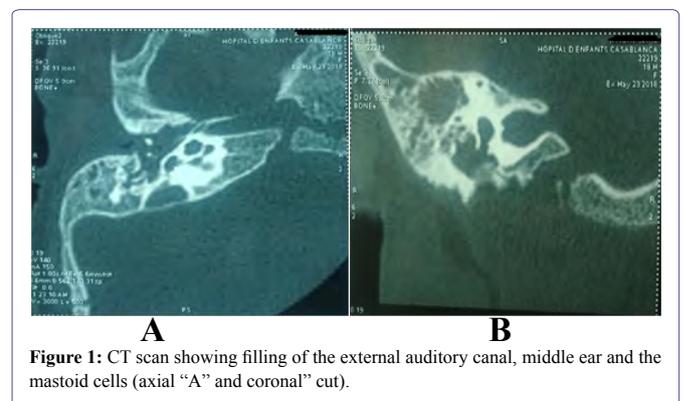
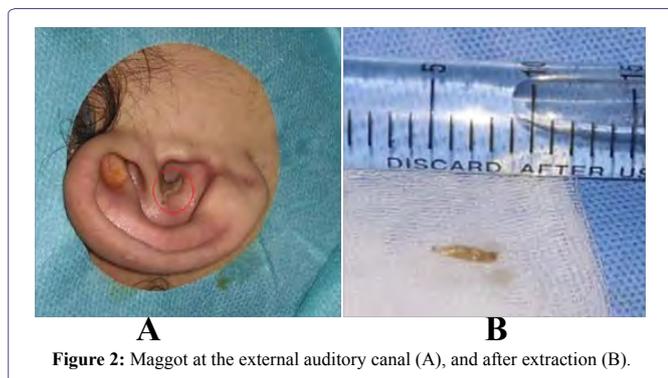


Figure 1: CT scan showing filling of the external auditory canal, middle ear and the mastoid cells (axial “A” and coronal” cut).

Upon examination with a general anesthesia, maggots showed at the middle ear after the aspiration of the draining right ear, with a large perforation. The maggots were extracted with clamp (Figure 2).

Saline irrigation and concomitant suction were performed. Combination antibiotic/steroid preparations were given pre- and post-micro toilet evacuation of the maggots, 3mg of ivermectine was administrated after extraction in one dose.

Maggot have been addressed in physiological saline at the parasitology laboratory and mycology, the myiasis was confirmed but fly species was not determined due to poor transport conditions, and the manipulated maggot. After 3 weeks follow up, the girl remained free of symptoms, and endoscopic examination showed the beginning of perforation closing (Figure 3).



Discussion

Myiasis is a type of parasites is which involves the infestation of living vertebrate animals with fly larvae which feed on host's necrotic or living tissue, liquid body substances or ingested food. Depending on the affected organ, *myiasis* can be classified in nasopharyngeal, oral, cutaneous, urogenital and, as in our case aural *myiasis* [3]. Aural *myiasis* has been defined as infestation of middle and/or the external ear, involvement of the pre-auricular region should also be included. A recent review article, considers that sanitary conditions, low socio-economic status play an important role in general, however specifically aural *myiasis* has been previously suggested to be more common in children, in patients with chronic otorrhea, patients swimming in stagnant waters and/or in debilitated individuals [2,4].

Neglected chronic suppurative otorrhea was the most suspicious cause in our case. The clinical presentation is wide from maggots in the ear to otalgia, ear drainage, Perforation of drum, itching roaring sound, tinnitus, bleeding. Otalgia is the most common pathological symptom of aural myiasis, otorrhea may be the second frequent symptom. Severe infestation may lead to deafness and meningitis. The surrounding tissue of the ear canal including bones may be damaged by the larval attack [3,5]. The examination of auditory function before and after treatment will be necessary if the patient report hearing loss.

In our case the symptoms were the otorrhea and maggots in the ear; auditory function was not examined by audiogram. Taxonomic division establishes several families derived from the order *Diptera*: *Oestridae*, *Calliphoridae* and *Sarcophagidae* are the most important. The species *Wohlfahrtia magnifica*, which belongs to the latter family, is a must-type larva, meaning that it requires living in a host tissue to

complete its development. This species is the predominant etiologic agent worldwide [4,6].

In our population (morocco) *sarcophagidae* is the most frequent family [7], in our case fly species was not determined due to poor transport conditions. Singh and Rana (1989) reported that the identification of the species of maggot prior to the recommendation of treatment is important because not all types of *myiasis* are benign [5]; however in our case despite the lack of identification the outcomes were satisfactory.

After having diagnosed *myiasis* through physical examination and, in some cases, through diagnostic images, the treatment must begin as soon as possible, including removal of maggots and cleaning lesion with 70% ethanol, 10% chloroform, oil drops, iodine saline or normal saline. Prophylactic antibiotic therapy may prevent secondary infections. The treatment is simple in early stage [4,5].

According to literature, maggot's sex traction, normal saline irrigation with concomitant suction and antibiotics were performed in our case. The ultimate goal of any treatment regimen is complete maggot removal and the easiest approach would likely be microscopic removal of all maggots with subsequent use of otic antibiotic drops [8]. Different studies have reported the occurrence of aural *myiasis* in humans [3], hence the interest of watchful waiting.

Ethical Approval

I certify that this kind of manuscript does not require ethical approval by the Ethical Committee of our institution.

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