



ORIGINAL RESEARCH PAPER

ENT

AURAL MYIASIS, AN UNUSUAL PRESENTATION

KEY WORDS:

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ABSTRACT Myiasis is the infestation of live vertebrates with dipterous larvae. Aural myiasis involves infestation of external ear and/or middle ear. It's a rare clinical state, most commonly seen in patients with mental or physical disabilities. It is more commonly seen in tropical regions, where humidity and warm weather provides a good environment for larvae to grow⁽¹⁾. In this paper, a 58 year old male, reported with history of trauma to the right ear 3 days ago, with complaint of bleeding and earache since then. Examination of the ear with bare eyes could see the larvae(maggots) coming out of the external ear canal(EAC), the canal being filled with maggots. The maggots were gently cleaned with irrigation of EAC. Further management included assessment of hearing, computed Tomography (CT) scan, and out patient follow up.

Introduction

The word myiasis, derived from ancient greek word 'myia' which means fly, is an infestation of the tissue and organs caused by fly (diptera) larvae. Usually the infestation onsets with the flies leaving the ova on the intact skin, wound or necrotic tissue. Larvae hatch from the ova, pass into adjacent tissues, complete their life cycles, and transform into adult forms⁽²⁾. Anatomically they are classified according to the location of larvae in the host^(1,2). Aural myiasis or Otomyiasis is the infestation of the external and/or middle ear.

II. Case report

A 58 year old male, farmer by occupation, came to the ENT OPD in district hospital Barwani, with history of trauma to the ear, 3 days back, with associated complaint of pain in the right ear, blood accompanied discharge from the same ear since the trauma. On gross examination of the right ear, maggots were visible in the EAC(Figure I). Otcoscopy revealed EAC filled with larvae, inflamed and swollen auditory canal, and tympanic membrane wasn't visible. Initially all the visible maggots were extracted manually under microscope. Later on, the ear was irrigated with turpentine oil, left for a minute and then suctioning was done. Around 100-150 larvae were removed,

On examination, no tympanic membrane was visible, rim of annulus not appreciated, roomy cavity was found in middle ear, mucus plugs were found, and no ossicles seen. Mucosa was congested. Patient was asked to put turpentine oil overnight.



I

II

Figure I: Gross examination of the ear reveals maggots filled in EAC

Figure II: Manual extraction of maggots from EAC.



III

Figure III: Larvae extracted after suctioning.

The removed larvae were identified by the microbiologist to belong to the Sarcophagidae family, species Wohlfahrtia magnifica. It is also known as flesh fly, white in colour with greyish tinge. The patient was admitted overnight and was started on analgesic, and broad spectrum antibiotics for prevention of secondary infection. On second day, 20-30 more larvae were removed manually, and patient informed improvement in pain, discharge and examination revealed decreased erythema and edema.

The patient underwent audiological assessment (tympanometry and pure tone audiogram), which showed flat tympanogram (type B) and mild conductive hearing loss in the involved ear. Also he underwent CT scan to rule out any intracranial involvement, and it showed roomy middle ear and no ossicles and intact roof of middle ear and mastoid.

III. Discussion

Myiasis can be seen in various regions, skin, body cavities, and organs. Aural myiasis can manifest itself in various forms including ophthalmomyiasis, nasal mysias, urogenital myiasis, intestinal myiasis, cutaneous myiasis. Most frequently encountered species of parasites in cases with aural myiasis are Cochliomyia hominivorax, Wohlfahrtia magnifica, Chrysomya bezziana, Chrysomya megacephala, and Parasarcophaga crassipalpis⁽³⁾. In our case, the larvae were segmented, approximately 10-15 mm sized, covered with bands of irregularly and retrogradely arrayed spinous processes. With these characteristics, these larvae were determined to be consistent with Wohlfahrtia magnifica species. It is usually a self limiting disease as larvae leave the host when they mature⁽⁴⁾. However during this period because of both mechanical effects of larvae, and collagenases they

secrete, they induce many complications in the patient. Those complications include perforation of tympanic membrane, destruction of middle ear, and mastoid cavity, and fatal nervous system invasion.⁽⁵⁾

The treatment of Otomyiasis is basically mechanical cleaning of airway. The procedure should be performed under microscope, just so that tympanic membrane, middle ear can be visualized for potential complications. Surgical exploration is sometimes needed when there is suspicion of intracranial extension or of any residual disease. In these cases, usually mastoid exploration is performed and the extension of the infestation is identified and if any residual is found it will be removed. It is important to include hearing assessment in the management and to document any changes in hearing level if found on future assessments.

Otomyiasis usually presents with earache, hearing loss, purulent or bloody discharge, itching in the ear and/or tinnitus. Other possible complaints include vertigo, facial weakness, and/or neurological symptoms secondary to intracranial involvement.⁽⁷⁻⁹⁾ The symptoms start after the deposited larvae start to feed on the surrounding tissues. There is rarely requirement of multiple investigations since larvae can be seen clearly on examination even after bizarre presentations.⁽⁶⁾

In conclusion, otomyiasis is a rare and benign manifestation, most frequently observed with sarcophagidae family. It usually presents in patients with risk factors like chronic suppurative otitis media, low socioeconomic strata, neglected children, old patients, mental retardation etc.⁽⁶⁾ It should be managed with direct extraction of larvae, administration of suitable ototopical antiseptics and suitable antibiotics at the earliest convenience to avoid its devastating complications.

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