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(CASE REPORT)

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Bilateral aural myiasis in a 3-month-old infant in Pwani region, Tanzania: A case report

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Abstract

Myiasis is a rare clinical condition caused by the larvae of Diptera. It is commonly seen in tropical and sub-tropical zones. The infestation of nose and ears can be extremely dangerous if the larvae destroy the bone and penetrate into the brain affecting the central nervous system. The objective is to report the case of a 3-month infant who was diagnosed to have bilateral aural myiasis at Tumbi Referral Regional Hospital in Tanzania, two maggots were removed one from each ear and the patient was treated with appropriate antibiotics.

Keywords: Bilateral; Aural myiasis; Otomyiasis; Maggot infestation; Infancy

1. Introduction

Invasion of tissues and organs in humans by parasitic infection of fly larva or maggots is called myiasis. Aural myiasis or otomyiasis involves the infestation of the external ear and/or middle ear. It happens when a female fly attracted by the foul odor deposits its eggs in the external ear canal (1). It is commonly caused by larvae from *Sarcophagidae* and *Calliphoridae* families, *Muscidae's* family is rarely involved (1–5). It is usually seen in children younger than 10 years of age or in debilitated individuals. Chronic otorrhea has been implicated as a risk factor for aural myiasis in healthy and mobile patients. Bilateral disease is an exception (6,7). Myiasis distribution is worldwide with more species and greater abundance in poor socio-economic regions of tropical and sub-tropical countries however, an increasing incidence is seen in the west due to international travel (3,8–11).

The clinical presentation of aural infestation is variable. Signs and symptoms include foreign-body sensation, otalgia, otorrhea, bleeding, itching, aural malodor, tinnitus, vertigo, restlessness, impaired hearing, and perforation of the tympanic membrane (8,12). Although most patients with aural myiasis have an uncomplicated treatment course, early intervention is key to avoiding complications involving adjacent structures. Diagnosis is mostly made by history and clinical examination. Further examinations are necessary when expansion to the middle ear is suspected.

2. Case report

A-3-month old female baby presented at Otorhinolaryngology clinic at Tumbi regional referral hospital with history of excessive crying for one day. Later on, her mother noticed blood from both ears however neither pus discharge nor fever was reported. General assessment showed vital signs to be within normal limits. On local examination; blood crust visualized in both ears and otoscopic findings revealed live one maggot from each external auditory canal seen with an intact tympanic membrane. The maggots were removed and aural toilet was done by hydrogen peroxide 3%. Specimen sent to microbiology analysis and identified as *Sarcophagidae* family.

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Figure 1 Maggot in the left external auditory canal

Figure 2 Maggot in the right external auditory canal

Figure 3 Maggot examined and identified at Laboratory

Upon establishing a diagnosis of aural myiasis, a patient was managed with appropriate antibiotics and anti-inflammatory drugs to treat possible secondary infection due to tissue destruction.

3. Discussion

Myiasis is derived from the Greek term "myia," meaning "fly." Entomologically, myiasis is divided into 3 types: obligatory, facultative and accidental myiasis. Clinical cases of myiasis are classified according to the anatomic site affected: cutaneous myiasis, myiasis of external orifices (nose and paranasal sinuses, and outer ear) or internal organs, and invasion of head cavities (2,13). Low socioeconomic status, poor hygiene, alcoholism, psychiatric diseases and neuropathies are frequent co-factors. Flies get attracted to bad odour and lay their eggs on warm, moist surfaces (1,3,5). While often self-limiting, a diagnosis of aural myiasis, especially in children, should prompt evaluation for predisposing pathologic conditions such as otitis externa, chronic suppurative otitis media and diabetes mellitus. This diagnosis should also trigger inquiries into whether the child is being neglected or living in unacceptable conditions as aural myiasis is more prevalent in children with these risk factors (1,9).

For our case, a patient had no known history of diabetes mellitus or any other immunosuppressive diseases. Given her stable and insignificant medical history, well-groomed. and kempt appearance, there was low suspicion of breeding ground for aural myiasis. It should be noted that this patient live in a sub-tropical region where aural myiasis is more common. While this patient did not travel recently, recent travel to international locations from the western world should be recognized as a risk factor for aural myiasis and other forms of myiasis (1,9).

4. Conclusion

Poor sanitation is the primary risk factor for human myiasis. Awareness of risk factors and early recognition of warning signs with help of risk factors should be raised. Proper care of vegetative, terminally ill and homeless people is paramount. The treatment of myiasis is simple and patients recover well once the correct diagnosis is promptly made and treatment started. Although the disease is rarely lethal, it can have life changing impacts. Education and awareness can help in early recognition and timely intervention, reducing the morbidity of complications. Studies are required to identify the uncommon species responsible for myiasis and their endemic areas so that preventive measures can be taken while travelling in such areas.

Compliance with ethical standards

Acknowledgment

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Disclosure of conflict of interest

The authors declare that there is no competing interests in this work. No funding was provided by any financial or academic institution for this study. No conflict of interest to be disclosed.

Statement of informed consent

The ethical clearance for our study was sought and a written informed consent was obtained from a patient's mother for case reporting and anonymous publication. Confidentiality was guaranteed.

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