Aural Myiasis – A Case Report

*Biswas BK¹, Khan MUK², Sinha B³

Abstract

Myiasis is a type of parasitosis caused by the larvae of diptera flies. Aural myiasis is the infestation of the external and or middle ear can be extremely dangerous if the larvae destroy the bone and penetrate into the brain. If the larvae penetrate the bone the fatality rate may be as high as 8%. Here we report a case aural myiasis in a patient with congenital mental retardation. He had complaints of complaints of severe earache, blood-stained discharge and something feeling of object left in his left ear over a week. On clinical examination, the right ear was found normal, while several active maggots and purulent secretion were found completely filling the left external auditory canal. 7 maggots were removed immediately after suction of purulent secretion. Then terpene oil was given in the left external auditory canal and another 25 maggots were removed under auto-endoscopic guidance. Later, the patient was treated with proper antibiotics, analgesic and antiallergic medication. Further management included assessment of hearing, computed tomography (CT) scan and follow up.

CBMJ 2025 January: Vol. 14 No. 01 P: 160-162

Keywords: Myiasis, aural myiasis, ear, maggots

Introduction

Myiasis common infestation among is а mammals; it occurs when a skin infestation of developing fly larva (maggot), most commonly of the Dermatobia hominis and Cordylobia anthropophaga species. It is more common in rural areas because rural people are in more direct contact with animals.¹ Predisposing factors for myiasis in humans are low socio-economic status, poor personal hygiene, mental retardation, neglected child, old age and diabetes mellitus.^{2,3} Although it is a self-limiting disease, myiasis can cause fatal complications; however, the larvae fully mature within 4-5 days and leave their host.²⁻ 4

Aural myiasis is the disease of the external and or middle ear.⁵ In the field of otolaryngology, it may affect the ears, nose and paranasal sinuses, nasopharynx, oral cavity and skin of the head and neck region. Flies are attracted by odor emanating from the ear and chronic lesions, especially from chronic suppurative otitis media, lay eggs and produce maggots.^{6,7} Most cases of aural myiasis do not require surgery. A review of 45 aural myiasis cases reported in 34 articles found that 88.9% of patients do not require surgery.⁸

Case Report

А	12-year-old	boy,	came	with	his	father
anc	reported	to	the	Depa	rtmen	t of

- *Dr. Binoy Krishna Biswas, Associate Professor, Department of Otolaryngology & Neck-Head Surgery, Community Based Medical College Bangladesh, Winnerpar, Mymensingh.
- Prof. Dr. Manjur Ul Karim Khan, Prof. & Head, Department of Otolaryngology & Neck-Head Surgery, Community Based Medical College Bangladesh, Winnerpar, Mymensingh.
- Dr. Barnali Sinha, Registrar, Department of Otolaryngology & Neck-Head Surgery, Community Based Medical College Bangladesh, Winnerpar, Mymensingh.

Address of Correspondence: Email: binoybiswas31@gmail.com



Otorhinolaryngology of Community Based Medical College, Bangladesh (CBMC,B) Hospital, Mymensingh, Bangladesh, with the complaints of severe earache left, blood stained discharge and something leaving object in his left ear for 7 days.

As the patient had congenital mental retardation, his father stated that he did not complain of any illness except for occasionally scratching the ear. On clinical examination, the right ear was found normal, while several active maggots and purulent secretion were found completely filling the left external auditory canal. 7 maggots were removed immediately after suction of purulent secretion. Then terpene oil was given in the left external auditory canal. Under auto-endoscopic guidance additional 25 maggots were removed (Fig. 1).



Fig. 1: Maggots removed from the left external auditory canal.

Auto-endoscopic evaluation revealed mild oedema, soft tissue necrosis in the left external auditory canal. Several pockets were seen, and maggots were removed from those. Further careful inspection and irrigation were made but did not visible any more maggots. The maggots were cylindrical in shape, 8 to 10 mm in length, white in colour with grayish tinge. The patient was given prophylactic injectable third generation cephalosporin, mild analgesic, and anti-allergic medication. CT scan of the left petromastoid region was done and found no intracranial complication. After that the patient was discharged and after 3 weeks follow up he was within normal.

Discussion

Myiasis is derived from the Greek term 'Myia', which means 'fly'.⁹ Entomologically myiasis is divided into 3 types: obligatry, facultative, and accidental.^{6,7} Myiasis of aural, nasal, ocular, oral vaginal, urinary tract has been reported. Aural myiasis occurs most often in children younger than 10 years of age.⁷ A retrospective study of 254 cases of myiasis, 37.9% occurred in children.¹⁰

Patients usually present to the hospital with the complaints of pain in the ear, hearing loss, purulent or bloody ear discharge, itching in the ear and or tinnitus.⁷⁻⁹ Other presentations may include vertigo, facial weakness and or neurological manifestations due to intracranial complication. The symptoms of myiasis start after the deposited maggots start to feed on the surrounding tissues. The infestation is usually diagnosed by history and clinical examination of the patient which will show the maggots in external auditory canal. Treatment of aural myiasis is simple. Most of the cases require nothing more than removal of maggots and irrigation of the ear by one or the more of the following- alcohol, chloroform, normal saline, olive oil, terpene oil.7-10 Prophylactic broadantibiotics are spectrum given to prevent secondary infection. In this case, 32 maggots were removed under auto-endoscopic examination with careful inspection for any residual. Some necrosed tissue was excised but no other extents of disease were found. There was no suspicion of any residual disease or intracranial extension. СТ scan the of showed petromastoid reaion intact bonv landmarks. However, surgical exploration is sometimes needed in patients when there is suspicion about the extent of the disease or for residual disease. In such cases, usually mastoid exploration is performed and the extent of the infestation is identified.¹⁰

Conclusion

Myiasis, also known as fly strike, is the parasitic infestation (fly larvae) of the body of a live animal. However, aural myiasis is a rare infestation of the ear. The clinical presentation may range from mild earache to manifestation of intracranial extension like seizure. The treatment of aural myiasis is simple, removal of maggots, ear irrigation and antibiotic to prevent any possible complication. Good sanitation, maintaining proper hygiene and vector control is key to prevention.

References

- Drutz JE. Arthropods. In: Cherry JD, Harrison GJ, Kaplan SL, Steinbach W, Hotez PJ. eds. Feigin and Cherry's Textbook of Pediatric Infectious Diseases. 8th ed. Vol. 1. Philadelphia: Elsevier; 2019.
- Centers for Disease Control and Prevention (CDC). DPDx – Laboratory Identifications of Parasites of Public Health Concern. Myiasis. Retrieved from: https://www.cdc.gov/dpdx/myiasis/index.html (Accessed October 17, 2023).
- 3. Ahmad AK, Abdel-Hafeez EH, Makhloof M, Abdel-Raheem EM. Gastrointestinal myiasis by larvae of Sarcophaga sp. and Oestrus sp. in Egypt: report of cases, and endoscopical and

morphological studies. Korean J Parasitol. 2011;49(1):51-7.

- 4. Mengi E, Demirhan E, Arslan IB. Aural myiasis: case report. North Clin Istanb. 2015;1(3):175-7.
- Bayindir T, Miman O, Miman MC, Atambay M, Saki CE. Bilateral aural myiasis (Wohlfahrtia magnifica): a case with chronic suppurative otitis media. Turkiye Parazitol Derg. 2010;34(1):65-7.
- Kaczmarczyk D, Kopczyński J, Kwiecień J, Michalski M, Kurnatowski P. The human aural myiasis caused by Lucilia sericata. Wiad Parazytol. 2011;57(1):27-30.
- Yuca K, Caksen H, Sakin YF, Yuca SA, Kiriş M, Yilmaz H, et al. Aural myiasis in children and literature review. Tohoku J Exp Med. 2005;206(2):125-30.
- Jervis-Bardy J, Fitzpatrick N, Masood A, Crossland G, Patel H. Myiasis of the ear: a review with entomological aspects for the otolaryngologist. Ann Otol Rhinol Laryngol. 2015 124(5):345-50.
- Singh I, Gathwala G, Yadav SP, Wig U, Jakhar KK. Myiasis in children: the Indian perspective. Int J Pediatr Otorhinolaryngol. 1993;25(1-3):127-31.
- Al Jabr I. Aural myiasis, a rare cause of earache. Case Rep Otolaryngol. 2015;2015:219529.