International Journal of Case Reports in Surgery

E-ISSN: 2708-1508
P-ISSN: 2708-1494
IJCRS 2025; 7(1): 151-153
www.casereportsofsurgery.com
Received: 09-02-2025
Accepted: 12-03-2025

Kriti Agarwal
JNMC Campus, Nehru Nagar, Belagavi, Karnataka, India

Nitin R Ankle
JNMC Campus, Nehru Nagar, Belagavi, Karnataka, India

Thanishka
JNMC Campus, Nehru Nagar, Belagavi, Karnataka, India

Vibha
JNMC Campus, Nehru Nagar, Belagavi, Karnataka, India

Corresponding Author:
Kriti Agarwal
JNMC Campus, Nehru Nagar, Belagavi, Karnataka, India

Aural Myasis: The changed scenario a case report

Kriti Agarwal, Nitin R Ankle and Thanishka, Vibha

DOI: https://www.doi.org/10.22271/27081494.2025.v7.i1c.160

Abstract
Aural myiasis, or otomyiasis, is a rare but significant condition characterized by the infestation of the external and/or middle ear by dipterous larvae. This case report discusses a 27-year-old male with delayed developmental milestones who presented with itching, ear bleeding, and sleep disturbances for three days. Otoscopic examination revealed numerous live maggots in the left external auditory canal, obscuring the tympanic membrane. The mastoid cavity showed granulation, likely due to a prior undocumented surgical procedure.
The patient underwent immediate endoscopic-guided removal of 85 live maggots using suction and alligator forceps, with turpentine oil applied to immobilize the larvae. Post-procedure examination revealed an intact but congested tympanic membrane and an inflamed external auditory canal. The patient was treated with antibiotics but was lost to follow-up.
Aural myiasis is more commonly observed in individuals with predisposing factors such as chronic suppurative otitis media, mental retardation, poor hygiene, and immunosuppression. Clinical presentation varies, including otalgia, hearing loss, and otorrhea, with severe cases leading to tympanic membrane perforation, mastoiditis, or intracranial complications. Early diagnosis through otoscopic examination is crucial to prevent severe morbidity. Treatment includes mechanical extraction, chemical immobilization of larvae, and antibiotic therapy. In cases of extensive tissue damage, surgical intervention may be necessary.

Keywords: Aural myiasis, Otomyiasis, Ear infestation, Maggot removal, Chronic otitis media

Introduction

Aural myiasis, also known as otomyiasis, is a rare condition characterized by the infestation of the external and/or middle ear with dipterous larvae [1]. The term "myiasis" is derived from the Greek word "myia," meaning fly, and refers to the invasion of human or animal tissues by fly larvae [2]. Although myiasis can affect various parts of the body, its occurrence in the ear is uncommon but clinically significant [3].

Predisposing factors for aural myiasis include chronic suppurative otitis media (CSOM), low socioeconomic status, poor personal hygiene, diabetes mellitus, advanced age, mental retardation, and neglected children [4]. Individuals residing in rural areas or those in close contact with livestock are at increased risk [5]. The presence of necrotic tissue, wounds, or chronic infections in the ear provides an ideal environment for fly oviposition and larval development [6].

Patients with aural myiasis typically present with symptoms such as ear pain, purulent or blood-tinged otorrhea, tinnitus, hearing impairment, and a sensation of foreign body presence in the ear [1]. In severe cases, larvae may invade deeper structures, leading to complications such as destruction of the external auditory canal, tympanic membrane perforation, and even intracranial extension [2]. Early diagnosis is crucial and is primarily based on clinical examination, with otoscopic findings revealing live larvae and associated inflammatory changes [3].

Management of aural myiasis involves the immediate removal of larvae, often aided by instillation of mineral oil, saline, or chloroform to immobilize them [4]. Antimicrobial therapy is essential to prevent secondary infections, and in some cases, surgical intervention may be required to address extensive tissue damage [5]. Preventive measures such as improving personal hygiene, treating underlying ear conditions, and avoiding exposure to fly-infested environments are vital in reducing the incidence of this condition [6].

This review aims to provide a comprehensive overview of aural myiasis, discussing its epidemiology, pathogenesis, clinical manifestations, diagnostic approaches, and management strategies [1]. By increasing awareness among healthcare professionals, early recognition and effective treatment of this rare but potentially serious infestation can be facilitated [2].

Case Summary

A 27 year old male, with delayed developmental milestones presented with complaints of itching in the left ear and bleeding from the left ear since 3 days. He also complained of inability to sleep since 3 days. Otological examination revealed numerous live maggots occupying the left external auditory canal. Tympanic membrane could not be visualised.

Mastoid cavity with granulation was visualised as patient was previously operated (documents not available). Tuning fork tests could not be assessed. Facial nerve function was intact. A combination of suctioning and alligator forceps was used to remove maggots under endoscopic guidance. Turpentine oil was applied and a total of 85 live maggots were removed following which intact but congested tympanic membrane was visualised along with congested external auditory canal. Antibiotics were used. Patient was lost to follow up.

Pre – Procedure Photos

Post – Procedure Photos

Discussion

Myiasis is an infestation of live tissues by dipterous larvae, which can affect various anatomical regions, including the skin, body cavities, and organs [7]. Otomyiasis, the infestation of the ear, is particularly rare in healthy individuals and is more frequently observed in populations with predisposing conditions such as mental retardation, chronic otitis media, and immunosuppression [8]. The larvae, after being deposited as eggs by adult flies, hatch and invade the affected tissue, causing irritation and inflammation [9].

In our case, a 27-year-old male with delayed developmental milestones presented with complaints of itching and bleeding from the left ear for three days. He also experienced significant sleep disturbances due to the infestation. Otoscopic examination revealed numerous live maggots occupying the left external auditory canal, with the tympanic membrane obscured from view. The mastoid cavity showed granulation, likely due to a prior surgical intervention for which documentation was unavailable. Facial nerve function remained intact [3]. The larvae were removed using a combination of suctioning and alligator forceps under endoscopic guidance. Turpentine oil was applied, leading to the extraction of a total of 85 live maggots. Following removal, the tympanic membrane was found to be intact but congested, along with an inflamed external auditory canal. The patient was subsequently treated with antibiotics [4].

The clinical presentation of aural myiasis varies, but common symptoms include ear pain, a crawling sensation in the ear, hearing loss, and otorrhea, which may be blood-stained[6]. Some patients also report tinnitus, vertigo, and secondary bacterial infections due to tissue destruction [7]. The inflammatory response and mechanical movements of larvae can lead to tympanic membrane perforation, destruction of the ossicles, mastoiditis, and even intracranial complications if the infection progresses [8].

Early diagnosis is essential to prevent severe complications. Otoscopic examination remains the primary diagnostic tool, revealing the presence of live larvae and associated tissue damage [9]. Imaging studies such as computed tomography (CT) scans may be required in cases of suspected intracranial extension or severe middle ear involvement [5].

Treatment primarily focuses on the removal of larvae, either manually using suction or forceps or through chemical methods involving turpentine oil, saline, or chloroform instillation to immobilize and kill the larvae [6]. Topical and systemic antibiotics are often prescribed to prevent or treat secondary bacterial infections [7]. In cases of extensive tissue damage, surgical intervention may be necessary to debride necrotic tissue and reconstruct affected structures [8].

Preventive strategies for aural myiasis include maintaining proper ear hygiene, treating predisposing conditions such as chronic otitis media, and minimizing exposure to environments where flies are abundant [9]. Public health measures targeting sanitation and vector control can also reduce the incidence of myiasis in endemic regions [5].

The prognosis of aural myiasis is generally favorable if diagnosed and treated early. However, delayed intervention can lead to severe complications, including irreversible hearing loss and life-threatening infections [6]. Therefore, healthcare providers should maintain a high index of suspicion, particularly in high-risk populations [7].

Conclusion

Aural myiasis remains a rare but clinically significant condition that primarily affects individuals with predisposing factors such as mental retardation, poor hygiene, chronic suppurative otitis media, and immunosuppression. The presence of fly larvae in the ear can cause severe irritation, pain, hearing loss, and complications including tympanic membrane perforation, secondary bacterial infections, and in rare cases, intracranial invasion. Early diagnosis and prompt intervention are crucial in preventing these complications and ensuring a favorable prognosis.

In the presented case, a 27-year-old male with delayed developmental milestones exhibited classical symptoms of aural myiasis, including itching, otalgia, and bleeding. The infestation was managed effectively using a combination of mechanical extraction and chemical treatment, followed by antibiotic therapy. This case highlights the importance of maintaining a high index of suspicion for otomyiasis in vulnerable populations and the necessity of immediate intervention to prevent serious morbidity.

The management of aural myiasis involves meticulous removal of larvae using mechanical and chemical methods, followed by appropriate antimicrobial therapy to prevent secondary infections. In severe cases, surgical debridement may be required. Preventive strategies such as improving personal hygiene, prompt treatment of chronic ear infections, and minimizing exposure to fly-infested environments can significantly reduce the incidence of this condition.

Ultimately, increasing awareness among healthcare professionals regarding the early signs and appropriate management of aural myiasis can enhance patient outcomes. Regular otoscopic examinations in high-risk individuals, combined with preventive public health measures, are essential in mitigating the burden of this rare yet potentially serious disease.

Conflict of Interest: Not available.

Financial Support: Not available.

References

1. Mengi E, Demirhan E, Arslan IB. Aural myiasis: Case report. North Clin Istanb. 2015 Jan 24;1(3):175-177. DOI: 10.14744/nci.2014.96967. PMID: 28058327; PMCID: PMC5175039.
2. Hatten K, Gulleth Y, Meyer T, Eisenman DJ. Myiasis of the external and middle ear. Ann Otol Rhinol Laryngol. 2010;119:436-438.
3. Srinivasa V, Arivazhagan GB, Balu KG, Kayarkar D. Maggots in the ear – a case series. Ophthal Rev: Tro J ophtha & Oto.2019;4(1):30-34. DOI:10.17511/jooo.2019.i1.06.
4. Cummings CW, Flint PW, Haughey BH, *et al*. Cummings Otolaryngology - Head and Neck Surgery. 7th ed. Philadelphia, PA: Elsevier; c2020.
5. Hope FW. On insects and their larvae occasionally found in the human body. Transactions of the Royal Entomological Society of London. 1840;2:256-271.
6. Francesconi F, Lupi O. Myiasis. Clin Microbiol Rev. 2012;25(1):79-105. DOI: 10.1128/CMR.00010-11.
7. Sherman RA. Wound myiasis in urban and suburban United States. Arch Intern Med. 2000;160(13):2004-14. DOI:10.1001/archinte.160.13.2004.
8. Sood VP, Kakar PK, Wattal BL, Nanda RS. Clinical study of aural myiasis. J Laryngol Otol. 1976;90(4):393-395.
9. Sharma H, Dayal D, Agarwal A, Gupta S. Otomyiasis: A clinical study and management protocol. Indian J Otolaryngol Head Neck Surg. 2015;67(2):177-180. DOI:10.1007/s12070-014-0777-7.

How to Cite This Article
Agarwal K, Ankle NR, hanishka, Vibha. Aural Myasis: The changed scenario a case report. International Journal of Case Reports in Surgery. 2025; 7(1): 151-153.