Asian Journal of Healthy and Science
p-ISSN: 2980-4302
e-ISSN: 2980-4310
Vol. 4 No 5 May, 2025

Aural Myiasis in a Pediatric Patient: A Case Report and Literature Review

Baruna Eka Atmaja
Klinik Ketanggungan Medical Center, Indonesia
Email: barunaatmaja2@gmail.com

Abstract

Aural myiasis is a rare condition caused by the infestation of the external auditory canal with fly larvae, primarily affecting individuals with poor hygiene or recurrent ear infections, and is most commonly reported in tropical regions. This case report highlights the clinical presentation, treatment, and outcomes of pediatric aural myiasis. The research method involves a descriptive case study approach, documenting a 10-year-old patient with a frequent swimming and recurrent ear discharge history. Data were collected through medical history, clinical examination, larval removal, and follow-up visits. The results reveal that the patient's condition was successfully managed through mechanical removal of larvae and irrigation of the ear canal, with prompt relief from symptoms. A literature review of relevant case studies and treatment protocols further emphasized the importance of early detection and proper management in preventing complications like tympanic membrane perforation. This research underscores the significance of awareness among healthcare providers, particularly in endemic areas, and supports the early diagnosis and intervention in pediatric cases of aural myiasis to ensure favorable patient outcomes. Future studies are encouraged to develop standardized treatment algorithms and prevention strategies to manage and reduce the incidence of aural myiasis across high-risk populations.

Keywords: Aural Myiasis, Ear Infestation, Ear Infection, Fly Larvae, Larval Removal, Otoscopic Examination, pediatric, treatment, complications

INTRODUCTION

Aural myiasis is a rare infestation of the external auditory canal by fly larvae, typically occurring in individuals with poor hygiene, chronic ear infections, or immunocompromised conditions (Rummens et al., 2020), (Wang et al., 2020). It is more commonly reported in tropical and subtropical regions, where flies are abundant, and is often associated with exposure to unhygienic environments (Mengi et al., 2014). Although myiasis is well-documented in various body parts, cases affecting the ear are uncommon, particularly in pediatric patients (Al Jabr, 2015; Bansal, 2016).

The presence of larvae in the ear canal can lead to significant tissue damage, secondary infections, and, in severe cases, complications such as tympanic membrane perforation or deeper invasion into the middle ear and mastoid (Ahmad et al., 2009). Early diagnosis and intervention are crucial to prevent complications and ensure optimal patient outcomes.

Here, we report a rare case of pediatric aural myiasis in a previously healthy child with a history of frequent swimming and recurrent ear discharge (Dhingra & Dhingra,

2021). This case highlights the importance of recognizing risk factors and implementing prompt management strategies to prevent further complications (del Villar Carrero, 2024; Morris et al., 2025; Schaper et al., 2016).

Case Report

A 10-year-old boy presented to our clinic with continuous bleeding from his left ear for two consecutive days (Agyemang & Nowak-Wegrzyn, 2017; Habashi & Ingle, 2016). The patient also reported ear pain, hearing impairment, and otorrhea. His parents noted a history of frequent swimming, after which he occasionally experienced foul-smelling ear discharge, suggesting a possible underlying ear infection (Abrahamm, 2018; Gupta, 2021; Stapes, 2020). There was no history of trauma, immunosuppressive conditions, or previous similar episodes (Memoli et al., 2014; Rosenthal & Moore, 2016).

On otoscopic examination, two live larvae were observed in the external auditory canal, surrounded by inflamed tissue (Figure 1). The tympanic membrane was intact, with no signs of perforation. Due to the primary care setting, no imaging or microbiological analysis was performed.

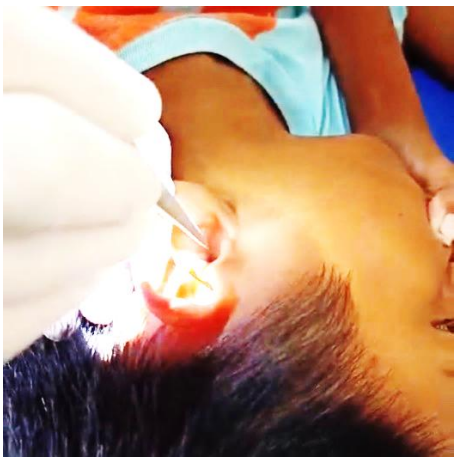

Figure 1. Live larvae were observed in the patient's left external auditory canal on initial otoscopic examination

The larvae were manually removed using forceps, followed by ear canal irrigation with normal saline (Figure 2). The patient was prescribed oral antibiotics, analgesics, and hemostatic agents for home use in case of recurrent bleeding (Amer et al., 2014; Morales-Avalos et al., 2021; Vassallo et al., 2023). Following larval extraction, the child reported immediate relief from pain and discomfort (Trottier et al., 2019; Wakid et al., 2022). On follow-up three days later, the patient was asymptomatic, with no further bleeding or pain.

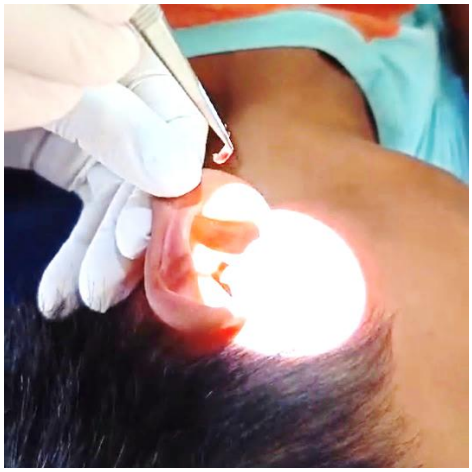

Figure 2. Mechanical removal of larvae using forceps, followed by irrigation with normal saline.

Although aural myiasis is a rare condition, especially in developed healthcare systems, its occurrence is more frequently documented in tropical and low-resource settings. Most literature on aural myiasis centers on adult or geriatric populations, with significantly fewer reports detailing pediatric cases. This underrepresentation points to a notable research gap, especially considering that children may be more vulnerable due to behaviors such as frequent swimming, inadequate ear hygiene, or limited awareness of early symptoms. The lack of emphasis on pediatric presentations can delay diagnosis and increase the risk of complications such as tympanic membrane damage or secondary infections. Therefore, this case report aims to contribute to the limited body of literature by highlighting the clinical presentation, management, and outcomes of aural myiasis in a child. The objective is to raise clinical awareness among primary care and ENT practitioners to ensure timely identification and intervention. The benefits of this research lie in promoting early, non-invasive management strategies and reinforcing the importance of prevention education for parents and caregivers, particularly in endemic or underserved regions.

RESEARCH METHOD

This research employed a descriptive case study design to document a pediatric patient's clinical presentation, treatment, and outcomes of aural myiasis. Data was collected at the Ketanggungan Medical Center Clinic, including the patient's medical history, clinical symptoms, otoscopic findings, and therapeutic interventions. Otoscopic examination revealed live larvae in the external auditory canal, which were removed manually using forceps, followed by irrigation with sterile saline. Post-procedure, the patient received oral antibiotics, analgesics, and hemostatic agents, with a single follow-up conducted three days later to assess symptom resolution.

Complementary to the case documentation, a focused literature review was conducted using Google Scholar to identify previous reports of pediatric aural myiasis. This review aimed to compare risk factors, treatment protocols, and outcomes to understand better the implications of early detection and management in pediatric

populations. However, this study has several limitations. The absence of statistical analysis and laboratory confirmation limits the precision of the findings. Additionally, the follow-up period was short, restricting insight into long-term outcomes. This is a single case report, so the results cannot be generalized to wider populations. Nevertheless, the report contributes valuable insight into an underreported condition in children and serves as a foundation for further research and improved clinical vigilance in endemic regions.

RESULT AND DISCUSSION

Aural myiasis is an uncommon condition caused by fly larvae infesting the external auditory canal. If not managed promptly, the presence of live larvae in the ear canal can lead to tissue destruction, secondary infections, and severe complications [1,2]. In this case, the extracted larvae were found intact, measuring approximately X mm in length (Figure 3).

Figure 3. Extracted larvae after mechanical removal from the ear canal.

Several species of flies, particularly from the *Calliphoridae* and *Sarcophagidae* families, are known to cause aural myiasis [2,3]. These dipteran larvae feed on necrotic or inflamed tissues within the auditory canal, which can aggravate inflammation and lead to serious complications such as tympanic membrane perforation, conductive hearing loss, or even invasion into deeper structures like the middle ear or mastoid cavity. In the present case, timely identification and intervention likely prevented these sequelae, emphasizing the role of early clinical vigilance.

The standard approach to managing aural myiasis involves mechanically extracting the larvae using forceps, followed by irrigation with saline or antiseptic solutions to remove residual eggs or necrotic debris [1,4]. Additional treatment may include systemic or topical antibiotics to prevent secondary bacterial infections. In some reports, occlusive substances such as mineral oil, chloroform, or turpentine have been used to immobilize the larvae prior to removal [5].

Compared with previous pediatric case reports, such as those documented by Prasanna et al. (2020) and Khan et al. (2017), the clinical presentation is generally consistent, manifesting with ear discharge, otalgia, and occasionally bleeding. However, our case uniquely benefited from early diagnosis without imaging or sedation, relying solely on primary care tools. Some published cases have required multiple extraction

sessions or hospital admission, especially in cases complicated by secondary infections or tissue necrosis.

The current findings align with other regional case studies that stress the importance of recognizing environmental and behavioral risk factors, such as poor hygiene, swimming in contaminated water, or pre-existing otitis externa, in increasing susceptibility to myiasis. Thus, heightened clinical suspicion is warranted in pediatric patients with such histories, especially in tropical or subtropical regions.

This case further illustrates healthcare providers' and communities' need for education regarding early signs of myiasis, appropriate referral pathways, and hygienic practices to minimize risk. Continued documentation of such cases is essential for building clinical awareness and guiding public health interventions, particularly in resource-limited or rural areas where the condition may be underdiagnosed or mismanaged.

CONCLUSION

Aural myiasis, though rare, presents a significant clinical concern, especially in pediatric populations with risk factors such as recurrent otitis externa and poor ear hygiene. This case underlines the critical importance of early detection and intervention to prevent serious complications, including tympanic membrane perforation and deeper extension into the middle ear or mastoid. Mechanical extraction of larvae combined with ear irrigation and targeted antibiotic therapy remains the cornerstone of effective treatment. From a clinical practice standpoint, it is essential to heighten provider vigilance for symptoms suggestive of myiasis in children, particularly those in endemic regions or with frequent water exposure, such as swimming. Healthcare facilities should be equipped with proper diagnostic tools, treatment protocols, and referral mechanisms for suspected myiasis cases, especially at the primary care level.

In terms of policy, we recommend integrating ear and hygiene screening into routine school health programs in high-risk areas, alongside public health campaigns focusing on ear care and infection prevention. Educational efforts should also target parents and caregivers to recognize early signs of ear infections and seek timely care. Further research and case documentation are essential to establish evidence-based protocols and guide resource allocation for neglected tropical conditions such as aural myiasis.

BIBLIOGRAPHY

Abrahamm, T. T. (2018). *A Clinical Study of Extracranial Complications of Chronic Suppurative Otitis Media and Itsmanagement*. Rajiv Gandhi University of Health Sciences (India).

Agyemang, A., & Nowak-Wegrzyn, A. (2017). A 10-year-old girl with persistent ocular swelling. *Annals of Allergy, Asthma & Immunology*, *118*(1), 10–15.

Ahmad, N. W., Ismail, A., Jeffery, J., Ibrahim, S., Hadi, A. A., Ibrahim, M. N., Chin, H. C., & Lim, L. H. (2009). Aural myiasis in a neonate in peninsular Malaysia. *Parasites & Vectors*, *2*(1), 63. https://doi.org/10.1186/1756-3305-2-63

Al Jabr, I. (2015). Aural Myiasis, a Rare Cause of Earache. *Case Reports in Otolaryngology*, *2015*(1), 219529. https://doi.org/https://doi.org/10.1155/2015/219529

Amer, M. Z., Mourad, S. I., Salem, A. S., & Abdelfadil, E. (2014). Correlation between international normalized ratio values and sufficiency of two different local hemostatic measures in anticoagulated patients. *European journal of dentistry*,

8(04), 475–480.
Bansal, M. (2016). *Essentials of ear, nose & throat*. JP Medical Ltd.
del Villar Carrero, R. S. (2024). Managing Risk Factors in the Emergency Department. *The Global Burden of Disease and Risk Factors-: Understanding and Management*, 19.
Dhingra, P. L., & Dhingra, S. (2021). *Manual of Clinical Cases in Ear, Nose and Throat-E-Book*. Elsevier Health Sciences.
Gupta, A. (2021). The Discharging Ear: Differential Diagnosis and Management. In *Manual of Contemporary Otological Practice* (hal. 76–96). CRC Press.
Habashi, S., & Ingle, V. (2016). Life Threatening Bleeding during Tympanoplasty in a Child: Presenting Author: Sherif Habashi. *The Journal of Laryngology & Otology*, *130*(S3), S167–S168.
Memoli, M. J., Athota, R., Reed, S., Czajkowski, L., Bristol, T., Proudfoot, K., Hagey, R., Voell, J., Fiorentino, C., & Ademposi, A. (2014). The natural history of influenza infection in the severely immunocompromised vs nonimmunocompromised hosts. *Clinical infectious diseases*, *58*(2), 214–224.
Mengi, E., Demirhan, E., & Arslan, I. B. (2014). Aural myiasis: case report. *Northern Clinics of Istanbul*, *1*(3), 175–177. https://doi.org/10.14744/nci.2014.96967
Morales-Avalos, R., Ramos-Morales, T., Espinoza-Galindo, A. M., Garay-Mendoza, D., Peña-Martínez, V. M., Marfil-Rivera, L. J., Garza-Ocañas, L., Acosta-Olivo, C., Cerda-Barbosa, J. K., & Valdés-González, N. L. (2021). First comparative study of the effectiveness of the use of tranexamic acid against ε-aminocapróic acid via the oral route for the reduction of postoperative bleeding in TKA: a clinical trial. *The Journal of Knee Surgery*, *34*(04), 383–405.
Morris, L. L., Brenner, M. J., Williams, R. L., & Pandian, V. (2025). Preventing and Managing Tracheostomy-Related Emergencies in the Radiology Suite: Best Practices for Safety and Preparedness. *Journal of Radiology Nursing*.
Rosenthal, M. D., & Moore, F. A. (2016). Persistent inflammation, immunosuppression, and catabolism: evolution of multiple organ dysfunction. *Surgical infections*, *17*(2), 167–172.
Rummens, E., Van der Mieren, G., Van Rompaey, V., Piessens, P., & Somville, F. (2020). Aural Myiasis: A Case Report on a Rare Entity. *Cureus*, *12*(9), e10617. https://doi.org/10.7759/cureus.10617
Schaper, N. C., Van Netten, J. J., Apelqvist, J., Lipsky, B. A., Bakker, K., & (IWGDF), I. W. G. on the D. F. (2016). Prevention and management of foot problems in diabetes: a Summary Guidance for Daily Practice 2015, based on the IWGDF Guidance Documents. *Diabetes/metabolism research and reviews*, *32*, 7–15.
Stapes, I. S. (2020). Commonly referred to as swimmer's ear and synonymous with otitis externa (OE), acute otitis externa (AOE) is inflammation to the external auditory canal. This condition is. *Fast Facts Handbook for Pediatric Primary Care: A Guide for Nurse Practitioners and Physician Assistants*, 20.
Trottier, E. D., Doré-Bergeron, M.-J., Chauvin-Kimoff, L., Baerg, K., & Ali, S. (2019). Managing pain and distress in children undergoing brief diagnostic and therapeutic procedures. *Paediatrics & child health*, *24*(8), 509–521.
Vassallo, M., Zamberlin, J., Roig, M. D., Macchi, R., & Ernesto Aguilar, J. (2023). Efficacy of Local Hemostatic Management in Implant Surgery in Anticoagulated Patients on Warfarin: A Randomized Clinical Study. *International Journal of Oral*

& Maxillofacial Implants, *38*(3).
Wakid, M. H., Almakki, A. A., Alsahaf, N. S., & Almatrafi, M. A. (2022). Furuncular myiasis by Wohlfahrtia magnifica (Diptera: Sarcophagidae) in a healthy child. *Asian Pacific Journal of Tropical Medicine*, *15*(2), 87–89.
Wang, Y., Sun, Y., Kong, W., & Wang, Y. (2020). Aural Myiasis: A Case Report and Literature Review. *Ear, Nose & Throat Journal*, *101*(7), 430–432. https://doi.org/10.1177/0145561320966072