Journal of Case Reports and Clinical Studies

Weldeslassie M, et al., J Case Rep Clin Stud. 2025;1(1):42-45.

Case Report

A case report of an uncommon presentation of furuncular myiasis in Eritrea

Michael Weldeslassie[1,*], Daniel Tadesse[2], Filmon Mebrahtu[3], Kidist Bobosha[4]

[1]Department of Biology, Mai Nefhi College of Science, Mai Nefhi, Eritrea

[2]Department of Laboratory, Halibet Referral Hospital, Asmara, Eritrea

[3]Medical Doctor, Halibet Referral Hospital, Asmara, Eritrea

[4]Armauer Hansen Research Institute (AHRI), Addis Ababa, Ethiopia

*Author for correspondence: Email: fru.malet@gmail.com

Received date: November 24, 2025
Accepted date: December 18, 2025

Abstract

Background: Myiasis refers to the infection of vertebrate tissues by dipteran fly maggots. The most well-known causal organism is *Dermatobia hominis*, a human botfly.

Case presentation: A 24-year-old female residing in Asmara, Eritrea, presented herself at the emergency room after experiencing a foreign body sensation for six days, with a history of multiple painful and pruritic nodules on 8th September 2025 at Halibet Referral Hospital. She found 7 erythematous, tender nodules and noticed a sensation of movement over the nodules, with a small central punctum appearing on the patient's extremities. Although she had not traveled internationally, she recently visited a family member on the 10th of July 2025 in the Southwest region of Eritrea. On her clinical examination, she had multiple areas of furuncular lesions with visible moving larvae. After applying petroleum jelly to every patient's lesion, every visible larva was successfully extracted by forceps. The patient was prescribed a seven-day course of an oral antibiotic combination: Amoxicillin trihydrate 500 mg and clavulanic acid (as potassium clavulanate 125 mg), administered three times a day for seven days. The follow-up confirms, the patient has successfully recovered from myiasis.

Conclusion: In most cases, myiasis is an illness that both patients and medical professionals find repulsive and unpleasant. In order to compare various therapy modalities, validate treatment procedures, and improve diagnostic methods, future research should try to cover a wider spectrum of cases.

Keywords: Uncommon, Furuncular, Myiasis, Eritrea

Introduction

Myiasis is defined as the parasitic infection of live vertebrate hosts-both humans and animals-by dipteran fly larvae (maggots) [1,2]. These flies deposit their eggs or larvae into bodily cavities or wounded skin, and the larvae subsequently penetrate and feed on live or necrotic tissue and bodily fluids [3]. The duration spent within the host varies by species before the larvae exit to pupate [3].

The most widely recognized causative agent worldwide is the human botfly, Dermatobia hominis [4]. However, the most prevalent clinical manifestation, furuncular myiasis, is endemic to specific geographic regions: Africa [5,6] and Latin America [6]. The occurrence of myiasis varies geographically and seasonally [7].

The frequency of infestation correlates strongly with latitude and the specific life cycle of the causative fly species [7]. Myiasis is categorized into three types based on the host-parasite relationship: obligatory (tropical in origin), facultative [2], and accidental [8]. Although obligatory forms are widespread, accidental and facultative types are rare globally. Notably, very few official case reports have emerged from the Horn of Africa region [9]. Several common risk factors predispose individuals to infestation, including tropical climates, unhygienic environments, low socioeconomic status, close animal contact, compromised immune systems, and inadequate wound care [2,10,11]. Beyond localized tissue destruction, myiasis infestations can trigger inflammatory and allergic reactions [12]. While cutaneous infections are most common, larvae can also infest sensitive areas such as the eyes, ears, and respiratory system [13–15].

Despite its endemic presence across the continent, significant epidemiological gaps exist in the Horn of Africa region, with very few official case reports emerging from this specific area [9]. This lack of published data translates into substantial clinical challenges in diagnosis, as myiasis remains an unfamiliar and largely underestimated condition among local Eritrean healthcare workers. Compounding this, presentations that deviate from typical furuncular myiasis can be easily misdiagnosed as routine bacterial infections, delaying appropriate management. This knowledge deficit poses a public health significance, hindering effective surveillance and community education efforts in high-risk populations. This article addresses these critical gaps by describing an uncommon presentation of multiple furuncular myiasis in a young female patient from Eritrea.

Case Presentation

On September 8, 2025, a 24-year-old female from Asmara, Eritrea, went to the emergency room at Halibet Referral Hospital after suffering a foreign body sensation for six days and having a history of many painful and pruritic nodules. The patient was transferred to the parasitology department. She found 7 erythematous tender nodules and noticed a sensation of movement over the nodules with a small central punctum appearing on the patient's extremities (legs and arms). She also claims that an insect-like worm comes out of the lesion site and a small portion of the larva was visible to her naked eye in other nodules.

Although she had not traveled internationally, she recently visited a family member on the 10th of July 2025 in the Southwest region of Eritrea, Mai Dma. On her visit, she remembered that there was an insect bite on her extremities. On her clinical examination, she had multiple areas of furuncular lesions (**Figure 1a, c,** and **d**)**,** the posterior of a larva was visible (**Figure 1a**), and started to extract. At this point, the patient requested the excision of all larvae. However, extraction may result in tissue trauma, a significant inflammatory reaction if the larva is mangled and not completely removed, and subsequent infection. As a result, we advised this patient to apply petroleum jelly to all lesions and return two days later for the extraction of any residual larvae. As shown in **Figure 1e**, all visible larvae were extracted by forceps. The patient was prescribed a seven-day course of an oral antibiotic combination: Amoxicillin trihydrate 500 mg and clavulanic acid (as potassium clavulanate 125 mg), administered three times a day for seven days. The follow-up confirms, the patient has successfully recovered from myiasis, the infection has been treated, and her health is in good shape.

Figure 1. (a) On the left upper anterior leg, a pruritic furuncular lump surrounded by erythema. The larva's posterior view is visible through a skin opening that permits continuous air contact. **(b)** The skin lesion following the removal of the larva. (**c**) Furuncular nodule with surrounding erythema, induration, at the left ankle flank. The larvae are visible through openings in the skin. (**d**) A nodule on the right leg of the femur. **(e**) Live larva, as soon as extracted.

Discussion

In most cases, myiasis is an illness that both patients and medical professionals find repulsive and unpleasant. Although myiasis is endemic in Latin America and Sub-Saharan Africa, cases are generally thought to be underreported because of a lack of entomological knowledge, low physician awareness, and inadequate diagnostic resources in some regions. The majority of cases that are documented are "imported" by tourists who are returning from endemic areas, mainly Latin America and Sub-Saharan Africa. According to one assessment, 122 (77.7%) of the 157 cases associated with SSA were reported from non-African nations (such as Europe, North America, and Asia) after tourists returned home [16]. According to our case report, furuncular myiasis is the most prevalent presentation in Africa and the most often reported form among returning travellers globally [17].

Open wounds, immunocompromised people, those from low socioeconomic backgrounds, those who are homeless, and drug addicts are risk factors [2,9,10]. Myiasis manifests as painful nodules, typically with central puncta, as well as pain, nocturnal pruritus, or overall discomfort in the skin surrounding the location, as previously reported [18]. Furuncular myiasis patients frequently exhibit redness, skin irritation, itching, and a crawling feeling beneath their skin [2]. Our patient experienced discomfort, tingling and pruritus among these symptoms. Furuncular myiasis differs from cutaneous larva migrans, cellulitis, and furuncles primarily in its etiology and presentation. While myiasis involves a motile fly larva causing a localized, painful boil-like lesion, cutaneous larva migrans features a migrating parasitic track without a static boil. In contrast, both cellulitis and furuncles are bacterial infections, presenting as a spreading, non-migratory rash (cellulitis) or a static, pus-filled nodule (furuncle), all of which lack the unique, contained larval movement seen in furuncular myiasis.

Furuncular myiasis typically resolves on its own. As demonstrated in this instance, the gold standard for treating myiasis still consists of larval removal, surgical debridement [19], antibiotics, and topical or oral ivermectin treatment [9]. Effective myiasis treatment and prevention involve several critical steps rooted in medical and entomological consensus. Clinicians should consider administering a tetanus vaccine if the patient is not already advised or properly immunized according to the current guidelines of the Centers for Disease Control and Prevention [20]. The extraction of the complete larva is crucial for successful management, as harming the larva can result in a severe inflammatory reaction, bacterial infection, or granuloma formation from retained parts [9,21]. A more advanced stage of the larva facilitates extraction [9]. The removal process can sometimes be facilitated in a more advanced larval stage by using suffocating agents like petroleum jelly or liquid paraffin, which cause the larva to collapse its spines as it seeks air [20]. Secondary bacterial infections must also be treated, and proper hygiene must be encouraged. The positive result emphasizes how crucial it is to maintain wound care and follow up regularly in order to avoid reinfestations or other problems in the future.

Preventive strategies in endemic areas include simple hygiene practices like keeping clothes off the ground, hanging them in the sun or indoors with closed windows, and ironing them before wearing them to destroy any potential eggs [9]. To the best of our knowledge, this is the first instance of myiasis in Eritrea. Using the phrases "Eritrea," "myiasis," "cutaneous myiasis," and "furuncular myiasis," an advanced PubMed search yielded no results related to myiasis. Furuncular myiasis cases are underreported in Eritrea and maybe the Horn of Africa.

Conclusions

It is easy to misdiagnose furuncular myiasis for cellulitis or furunculosis. Dermatologists and other medical professionals need to understand management and clinical characteristics. Public education about the importance of receiving care from a skilled health care provider may help avert issues, particularly among the elderly and those at high risk of infection. Myiasis should be added to the list of diseases to report, and entomological identification of the larval species that causes it should be done on a regular basis. In light of this, this report could aid in underreported cases of myiasis, in administering the proper care, and in enhancing our comprehension of such situations. In order to compare various therapy modalities, validate treatment procedures, and improve diagnostic methods, future research should try to cover a wider spectrum of cases.

Author Contributions

Michael Weldeslassie contributed to the conception of the study, designed the study, and prepared the manuscript for publication. Filmon Mebrahtu and Daniel Tadesse participated in the study design and specimen examination. Kidist Bobosha supervised, reviewed and corrected the manuscript. All authors read and approved the final manuscript for publication.

Funding

The authors declared that this study had received no financial support.

Consent to Publish Declaration

Written informed consent was obtained from the patient for publication.

Ethics and Consent to Participate Declarations

Not applicable.

Data Availability Statement

The original contributions presented in the study are included in the article; further inquiries can be directed to the corresponding author.

Conflicts of Interest

The authors declare that they have no competing interests.

References

1. Song SM, Kim SW, Goo YK, Hong Y, Ock M, Cha HJ, et al. A Case of Furuncular Myiasis Due to Cordylobia anthropophaga in a Korean Traveler Returning from Uganda. Korean J Parasitol. 2017 Jun;55(3):327–31.
2. Devi R, Rao N, Sivakumar T, Kalpana G, Jacob E, Menaka K. Case report of maggot infestation on diabetic foot ulcer. J Pharm Res Int. 2021:194–7.
3. Salmanzadeh S, Rahdar M, Maraghi S, Maniavi F. Nasal Myiasis: A Case Report. Iran J Public Health. 2018 Sep;47(9):1419–23.
4. Steffen R, Rickenbach M, Wilhelm U, Helminger A, Schär M. Health

problems after travel to developing countries. J Infect Dis. 1987 Jul;156(1):84–91.

5. Blaizot R, Vanhecke C, Le Gall P, Duvignaud A, Receveur MC, Malvy D. Furuncular myiasis for the Western dermatologist: treatment in outpatient consultation. Int J Dermatol. 2018 Feb;57(2):227–30.
6. Gigantesco M, Sabattini C, Gigantesco B, Ingordo I, Ingordo V. Furuncular myiasis by Cordylobia anthropophaga: a paediatric case in Italy. Eur J Pediatr Dermatol. 2018 Jan 1;28(1).
7. Alzayyat R, Alsaihati A, Rubaian NB, El-Badry A, Aldamanhori I. Furuncular myiasis in a Saudi male: Case report. 2024 Aug;5(8):1–3
8. Burgess IF. Myiasis: maggot infestation. Nurs Times. 2003 Apr 1-7;99(13):51–3.
9. Yusuf MA, Pritt BS, McMichael JR. Cutaneous myiasis in an elderly woman in Somaliland. Int J Womens Dermatol. 2019 Apr 13;5(3):187–9.
10. Calvopina M, Ortiz-Prado E, Castañeda B, Cueva I, Rodriguez-Hidalgo R, Cooper PJ. Human myiasis in Ecuador. PLoS Negl Trop Dis. 2020 Feb 21;14(2):e0007858.
11. Mutinda KN, Gichohi MP, Maina WR, Maina GS, Agosa KE. Prevalence, Etiology, and Risk Factors Associated with Occurrence of Canine Cutaneous Myiasis in Kitui County, Kenya. Vet Med Int. 2022 Jun 24;2022:5699060.
12. Messahel A, Sen P, Wilson A, Patel M. An unusual case of myiasis. J Infect Public Health. 2010;3(1):43–5.
13. Boruk M, Rosenfeld RM, Alexis R. Human botfly infestation presenting as peri-auricular mass. Int J Pediatr Otorhinolaryngol. 2006 Feb;70(2):335–8.
14. Hall M, Wall R. Myiasis of humans and domestic animals. Adv Parasitol. 1995;35:257–334.
15. Masoodi M, Hosseini K. The respiratory and allergic manifestations of human myiasis caused by larvae of the sheep bot fly (Oestrus ovis): a report of 33 pharyngeal cases from southern Iran. Ann Trop Med Parasitol. 2003 Jan;97(1):75–81.
16. Francesconi F, Lupi O. Myiasis. Clin Microbiol Rev. 2012 Jan;25(1):79–105.
17. Arora S, Sharma JK, Pippal SK, Sethi Y, Yadav A. Clinical etiology of myiasis in ENT: a reterograde period--interval study. Braz J Otorhinolaryngol. 2009 May-Jun;75(3):356–61.
18. Mendoza AZ, Borna S, Ho OA, Waldorf JC. Travel-Related Cutaneous Myiasis: A Case Report. J Clin Med. 2024 Sep 1;13(17):5190.
19. Espinosa H, Salgado OJ, Espinosa-Martin L, Salazar-Torres K. Myiasis in a Neglected Elderly: Urgent Action Needed in South America. Int Med Case Rep J. 2022 Dec 14;15:719–24.
20. Centers for Disease Control and Prevention (CDC). Evidence to recommendations for use of tetanus toxoid-containing vaccines. Georgia : Centers for Disease Control and Prevention (CDC); 2024, Available From: https://www.cdc.gov/acip/evidence-to-recommendations/tdap-etr.html.
21. Jallow BJJ, Gassara G, Bajinka O, Luo Y, Liu M, Cai J, et al. Human myiasis in Sub-Saharan Africa: A systematic review. PLoS Negl Trop Dis. 2024 Mar 28;18(3):e0012027.