

Scalp myiasis presenting as forehead edema in a returning traveller from Belize

Miguel Martínez-Lacalzada (✉ miguellacalzada@gmail.com)

Barcelona Institute for Global Health (ISGlobal), Hospital Clínic-Universitat de Barcelona

Isabel Vera

Barcelona Institute for Global Health (ISGlobal), Hospital Clínic-Universitat de Barcelona

Miriam José Álvarez-Martínez

Department of Microbiology, Biomedical Diagnostic Center (CDB), Barcelona Institute for Global Health (ISGlobal), Hospital Clínic-Universitat de Barcelona

Cristian Aylagas

Department of Microbiology, Biomedical Diagnostic Center (CDB), Barcelona Institute for Global Health (ISGlobal), Hospital Clínic-Universitat de Barcelona

Alex Almuedo-Riera

Barcelona Institute for Global Health (ISGlobal), Hospital Clínic-Universitat de Barcelona

Alba Antequera

Barcelona Institute for Global Health (ISGlobal), Hospital Clínic-Universitat de Barcelona

Leire Balerdi-Sarasola

Barcelona Institute for Global Health (ISGlobal), Hospital Clínic-Universitat de Barcelona

Daniel Camprubí-Ferrer

Barcelona Institute for Global Health (ISGlobal), Hospital Clínic-Universitat de Barcelona

Jose Muñoz

Barcelona Institute for Global Health (ISGlobal), Hospital Clínic-Universitat de Barcelona

Natalia Rodríguez-Valero

Barcelona Institute for Global Health (ISGlobal), Hospital Clínic-Universitat de Barcelona

Short Report

Keywords:

Posted Date: September 14th, 2023

DOI: <https://doi.org/10.21203/rs.3.rs-3268985/v1>

License: © ⓘ This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

Abstract

Objective: We present a case of furuncular myiasis in a returning traveller from Belize, characteristically presented with forehead/eyelid edema and two crusted papules on the scalp, atypical symptoms that led to an incorrect initial diagnosis of rickettsial infection.

Clinical case: A 60-year-old Venezuelan woman with no previous medical history presented with a 4-day history of the forehead and left eyelid edema and two subcentrimetric crusted lesions on the scalp frontoparietal area after tourism travel to Belize in the preceding month. She presented to a dermatological clinic 10 days after her arrival and a diagnosis of rickettsial infection was suspected based on clinical and epidemiological information, prescribing treatment with oral corticosteroids and doxycycline. After posterior evaluation in our outpatient clinic vaseline occlusion was carried out due to suspicion of scalp myiasis and antibiotic was suspended. Both larvae could be removed and the patient showed complete resolution of symptoms and recovery from the skin infestation.

Conclusion: The diagnosis of scalp myiasis in the context of atypical symptoms is challenging. Health professionals should be aware of this possible aetiology in facial/forehead edema in returning travellers from endemic regions.

Highlight

- Scalp myiasis could present clinically as facial/forehead edema leading to misdiagnosis.
- Health professionals should be aware of this possible etiology in facial/forehead edema in returning travellers from endemic regions.

CASE REPORT

A 60-year-old Venezuelan woman with no previous medical history presented with a 4-day history of forehead and left eyelid edema and two subcentrimetric crusted lesions on the scalp frontoparietal area. She lives in Spain but had travelled for tourism to Colombia, Guatemala, and Belize in the preceding month. She stayed in rural/urban areas and spent the last days at Belize Cayes visiting forested and beach areas. She recalled several mosquito bites, with no other epidemiological risks or insect bites on her scalp. She had no fever, headache, rash, or other systemic signs or symptoms.

Once in Spain, she presented to a dermatological clinic 10 days after her arrival, and a diagnosis of rickettsial infection was suspected based on clinical and epidemiological information. Oral doxycycline and corticosteroids were prescribed due to significant edema.

Initial examination in our outpatient clinic 3 days after the previous dermatological evaluation still revealed forehead edema with left eyelid edema. Examination of the scalp showed two subcentrimetric crusted lesions on the frontoparietal area. There were no lymphadenopathies. We identified two papules with a central punctum and after a transitory occlusion, movement was observed within the orifices (see

Fig. 1). Vaseline occlusion was carried out for 3 days due to suspicion of scalp myiasis and doxycycline was suspended.

After 3 days of follow-up, she showed complete resolution of the edema, and she started referring to itching in the skin lesion area reporting a moving sensation underneath the skin lesions. One of the two larvae was successfully removed using sterile tweezers (Fig. 2), but the other one needed 3 more days of vaseline occlusion until manual removal (Video File).

The etiologic diagnosis was performed by morphologic examination of both larvae, due to the structure of spiracles and the body form, with a narrow posterior end and a swollen anterior end bearing many spines. They were classified as *Dermatobia hominis* larvae (Fig. 2). After a week, the patient showed complete recovery from the skin infestation.

DISCUSSION

Although many larvae species are associated with myiasis, *Dermatobia hominis*, is the most common cause of furuncular myiasis in Latin America (1). Lesions are often localized to the face, forearms, and legs (1). However, its occurrence on the scalp in association with facial or forehead edema is not frequently reported and may lead to delays in diagnosis and a correct treatment (2). We report a case of furuncular myiasis in a returning traveller from Belize, characteristically presented with forehead/eyelid edema and two crusted papules on the scalp, atypical symptoms that led to an incorrect initial diagnosis of rickettsial infection and initiation of empirical antibiotic therapy.

With the increase in international travels, myiasis is becoming a commonly observed skin problem among returning travellers, accounting for 5–11% of skin lesions (1, 3). Bearing this in mind, health professionals should also be aware of this possible etiology in facial or forehead edema in returning travellers from endemic regions. Serosanguineous discharge from the central punctum and movement sensations within the lesion are important clinical clues to the diagnosis. Extraction can be performed after covering the central pore of the lesion with a sealing ointment (eg, paraffin) impairing the ability of the larva to respire and stimulating its migration out of its sinus. This leads to suffocation of the larva and upon manual pressure, the larvae can be extracted easily (1).

Although the diagnosis of myiasis is mainly based on clinical signs and symptoms, ultrasound examination may help to confirm clinical suspicion, as these equipment becomes readily available (4, 5). The ultrasound examination shows the shape and segmentations of the larva e in addition to the larva body spiracles and the flow of larval body cavity fluid (4, 5).

DECLARATION

Ethical Approval

Verbal and written consent was obtained from the patient to use clinical photographs. This case report was conducted in accordance with the CARE guidelines (CAse REport), attached as Supplementary material.

Case report or retrospective chart review with three or fewer patients not presented as a systematic investigation designed to contribute to generalizable knowledge does not meet the DHHS definition of "research", which is: "a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge. Therefore, IRB review is not required

Declaration of Competing Interest

The authors have no conflicts of interest to declare.

Data Availability Statement

The authors confirm that the data supporting the findings of this study are available within the article and its supplementary materials.

Funding

No funding was received for this work.

Authors' contributions

M.Martínez-Lacalzada wrote the main manuscript text, prepared figures 1-2 and supplementary video. N.Rodríguez-Valaro wrote, reviewed and edited the main manuscript text. All authors reviewed the final draft (Vera I, Álvarez-Martínez MJ, Aylagas C, Almuedo-Riera A, Antequera A, Balerdi-Sarasola L, Camprubí-Ferrer D, Muñoz J). All authors contributed to the clinical management of the patient and interpretation of the data.

REFERENCES

1. Lachish T, Marhoom E, Mumcuoglu KY, Tandlich M, Schwartz E. Myiasis in Travellers. *J Travel Med.* 2015 Jul-Aug;22(4):232-6.
2. Mandeep Kaur¹, Inderjit Kaur. Cutaneous Myiasis of the Scalp Presenting as Bilateral Orbital Edema. *AMEIs Current Trends in Diagnosis & Treatment* 4(2):107-109
3. Francesconi F, Lupi O. Myiasis. *Clin Microbiol Rev.* 2012 Jan;25(1):79-105
4. Jones CH, Leon M, Auerbach J, Portillo-Romero J. Ultrasound Detection of Human Botfly Myiasis of the Scalp: A Case Report. *Cureus.* 2020 Dec 4;12(12):e11905.
5. Mori MT, Paulson CL, Greenberg MR, Roth KR. Point-of-care ultrasound utilized for foreign body in a toe: A case report of botfly larvae. *J Emerg Med.* 2022 Jun;62(6):e105-e107. doi: 0.1016/j.jemermed.2022.02.008

Figures



Figure 1

(A) Photograph of the patient showing forehead edema with left eyelid edema. (B) Resolution of edema. (C) Central punctum after cleaning the scabbed area of the papule. After 2 minutes of transitory occlusion, movement was observed within the orifice.

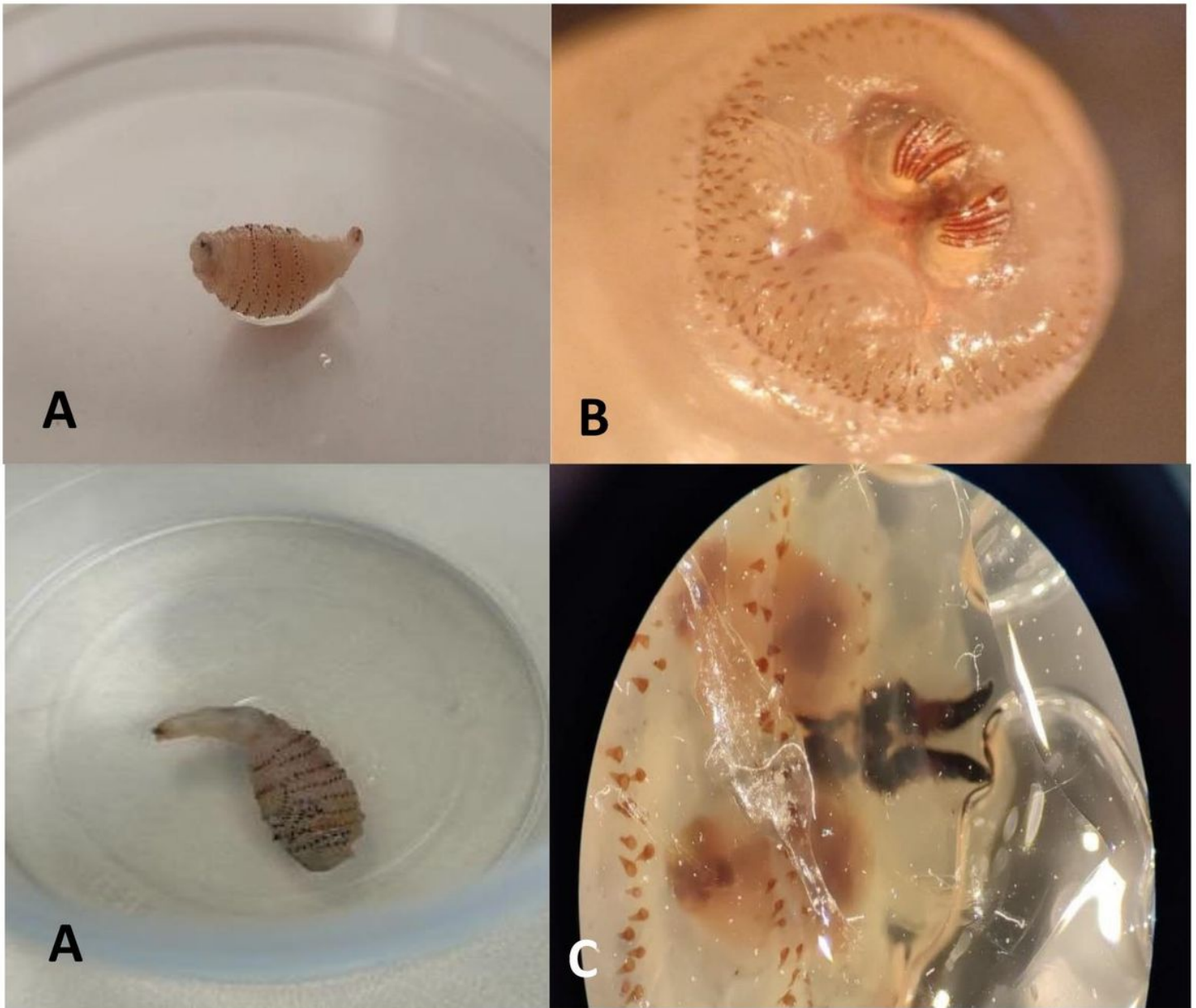


Figure 2

(A) Morphology of adult *Dermatobia hominis* larvae after removal. (B) Larval spiracles. (C) Cephalopharyngeal skeleton of the larva.

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- [CAREchecklist.pdf](#)
- [Removalofoneofthelarvaevideo.mp4](#)