

## CLINICAL LETTER

### Cutaneous wound myiasis – A possible infection in developed countries

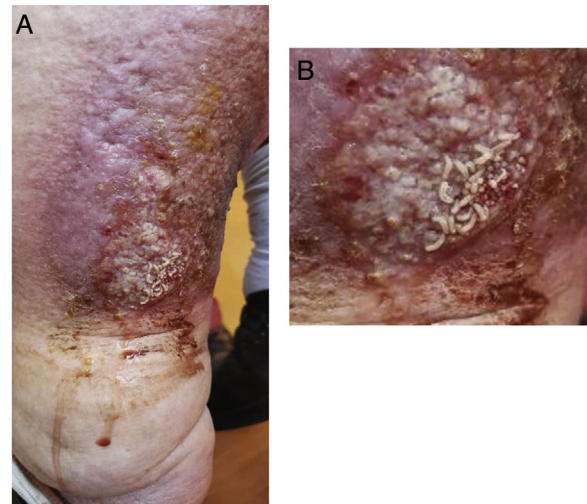


#### Miasis cutánea de la herida: una posible infección en los países desarrollados

Cutaneous wound myiasis is an infestation by human ectoparasites that occurs when fly larvae invade and infect healthy or injured tissue of a living host and feed, for varying periods, on dead or living tissue and/or body substances, depending on the species involved.<sup>1</sup> The most common location is in skin tissue, but they can also affect membranes and body cavities.<sup>2</sup> This type of myiasis can result in massive tissue destruction and even host death. The main predisposing factors include open wounds, poor hygiene, hot climates, advanced age, psychiatric illness, alcoholism, diabetes, occlusive vascular disease, and physical impairments.<sup>3</sup> Although this infection exists worldwide, in recent years, most cases reported in developed countries are travel-related, in which the infestation was acquired during tropical visits.<sup>3</sup>

A 70-year-old widowed woman, living alone in Gondomar, a rural area in the northern Portugal, with support from her daughters, went to her health center for exuberant edema of the left lower limb. She had been diagnosed with metabolic syndrome (Type 2 *Diabetes Mellitus* for almost 6 years, hypertension, morbid obesity), moderate obstructive sleep apnea syndrome, heart failure, chronic kidney disease and chronic lymphedema of the lower limbs with marked trophic alterations. She was being followed in multiple hospital medical specialties. She also had a history of chronic venous ulcerated wounds. In the previous 2 months, she had an episode of infection of an ulcer present in her left leg, having been treated with Amoxicillin 875 mg with Clavulanic Acid 125 mg, without subsequent reevaluation.

On the day of this episode, the patient reported a feeling of an itch-like sensation in her left leg, without pain. She called for one of her daughters for help and was brought in for a medical examination. The physical examination revealed dozens of larvae along the back of the leg that ran through both superficial and deep tissues (Fig. 1). It could be heard the movement of the larvae moving through the tissues, much like “frying an egg”. According to the caregiver, who usually helps with the patient’s hygiene, there



**Figure 1** Venous ulcer of the left lower limb infested by larvae (A) and detail of the affected area (B).

was no wound in the days before the examination. She also mentioned that the patient had been tending to her crops in the days before coming in for the examination. The family nurse cleaned the wound with total extraction of the parasites, placed a patch and the patient was sent to the Emergency Department for an eventual surgical debridement. There, only antibiotic treatment with Flucloxacillin 500mg was established and it was recommended to perform home postural drainage with hygiene care and daily change of patches in the health center. After 1 month, the patient was reevaluated by her family physician. She had only a clean wound on the left lower limb, red, slightly warm on the top, with no other inflammatory signs.

In this case, no investigation of the larvae was carried out since the diagnosis is clinical and the priority was the integral removal of the parasites. The patient denied lack of hygiene in her house and denied recent trips, but she had a large vegetable field where she went every morning gardening.

The clinical manifestations vary according to the area of the body affected and the extent of the infestation, being that, in the most severe cases may be accompanied by fever, chills, pain, bleeding in the infected site, secondary systemic infection, leukocytosis and hypereosinophilia.<sup>4</sup>

Contrary to what happened with this patient, infestations usually occur around the ears, nose and orbit.<sup>5</sup>

In this particular case, the patient had Type 2 *Diabetes Mellitus* and an extensive history of venous ulcers and possibly an undiagnosed diabetic neuropathy. Considering these risk factors, the importance of close monitoring becomes evident and the caregivers must be instructed to perform regular examinations, in order to detect the presence of wounds and/or ulcers at an early stage.

Human myiasis has a worldwide distribution with a higher incidence in tropical and subtropical countries and in lower social classes, alcoholics and/or with associated chronic pathology.<sup>1</sup> In developed countries, such as Portugal, it may indicate lack of hygiene and negligence in the treatment of the wounds or be related to recent travel.

Paradoxically, myiasis from some types of larvae can be useful to the host because they help on removing the necrotic tissue.<sup>5</sup>

The recommended treatment consists of the total extraction of the larvae and, in most cases, antibiotic therapy is not necessary. Ivermectin 1% in propylene glycol can be applied to the lesion 2 h before removal of parasites, facilitating cleaning.<sup>2</sup>

It can be prevented with different measures, either in cases of travel or in more rural or precarious environments, therefore it is very important that family doctors are familiarized with the possibility of this infection in at-risk patients, even in urbanized areas with good access to medical treatments.<sup>1</sup>

In short, proper hygiene, prompt treatment and coverage of skin lesions are the best methods of preventing the invasion of fly larvae in wounds, necrotic tissues or body orifices. Homeless, elderly or debilitated people are the main risk groups that must be taken special care and attention. Therefore, this case exemplifies the importance of a continuous and individualized follow-up of patients with multiple comorbidities, such as Type 2 *Diabetes Mellitus*, and the close proximity medicine practiced by primary health care professionals is a crucial way to prevent this kind of situation.

## Informed consent

Written consent was obtained from the patient for the publication of this case report.

## Funding

None declared.

## Conflict of interest

None declared.

## References

1. Caissie R, Beaulieu F, Giroux M, Berthod F, Landry PE. Cutaneous myiasis: diagnosis, treatment, and prevention. *J Oral Maxillofac Surg.* 2008;66:560–8.
2. Cardoso AEC, Cardoso AEO, Talhari C, Santos M. Update on parasitic dermatoses. *An Bras Dermatol.* 2020;95:1–14.
3. Cunha PR, Flora TB, Kroumpouzou G. Travelers' tropical skin diseases: challenges and interventions. *Dermatol Ther.* 2019;32:e12665.
4. Robbins K, Khachemoune A. Cutaneous myiasis: a review of the common types of myiasis. *Int J Dermatol.* 2010;49:1092–8.
5. Solomon M, Lachish T, Schwartz E. Cutaneous myiasis. *Curr Infect Dis Rep.* 2016;18:28.

J. Calheiros-Lobo, A. Lucas\*, A. Cunha, F. Elias, J. Correia

*Family Medicine Residents at USF Renascer, ACES  
Gondomar, Portugal*

\* Corresponding author.

E-mail address: [ana.lucas89@gmail.com](mailto:ana.lucas89@gmail.com) (A. Lucas).