Dermatobia Hominis Infestation Misdiagnosed as Abscesses in a Traveler to Spain

Dear Editor,

A 29-year-old woman presented with abscesses on her buttock and leg attributed to flea bites inflicted 5 days earlier on return to Spain after 2 months in Guinea-Bissau. Ciprofloxacin was ineffective after 7 days, and she was referred for dermatologic evaluation. Examination revealed 4 round, indurated, erythematous-violet furunculoid lesions with a 1.5-2 mm central orifice draining serous material. She reported seeing larvae exiting a lesion, and we extracted several more (Figure 1). Parasitology identified *Dermatobia* (*D.*) hominis (Figure 2).

Biopsy revealed intense dermal eosinophilic inflammatory infiltrate with a deep cystic appearance, surrounded by acute inflammatory infiltrate and necrotic material. Dermoscopy identified a foramen surrounded by dilated blood vessels and desquamation. A yellowish structure with a luminescent central ring was noted. Ultrasonography identified oval, hypoechoic, and hypovascular structures with inner echoic lines corresponding to cavities with debris and/or larval remains. Larvae were extracted before ultrasonography (Figure 1, b).

Recommended treatment included topical antiseptic, occlusion of the infected area with paraffin, and 1% topical ivermectin; treatment resulted in incomplete resolution after 7 days.

Furunculoid myiasis is more common in developing countries (1). Cases in Spain are usually imported, since the flies that produce this type of myiasis are not found locally. The species most frequently involved are *D. hominis* from Central and South America (botfly) and *Cordylobia anthropophaga* from the sub-Saharan region (tumbu fly) (2). We believe this was the first case in Spain imported from Guinea-Bissau.



Figure 1. (a) Indurated, hyperpigmented lesions with bloody, purulent exudate on the buttock and thigh. (b) Larvae were extracted before ultrasonography. Lesions involved the hypodermis and dermis, with increased surrounding echogenicity, probably due to edema and inflammation.



Figure 2. Morphology of *D. hominis* larva after mechanical extraction.

Several cases have been reported in Spain. Marco de Lucas *et al.* (3) reported a case in a Colombian male emigrant with multiple subependymal and intraventricular lesions, concentric blooming artifacts, and moderate hydrocephalus due to intracerebral myiasis. Another case was described by Arocha *et al.* (4). Central European countries continue to report new cases of imported furunculoid myiasis (5).

D. hominis is a fly of the *Oestridae* family, approximately 1.5 cm long, yellowish-white in color, with a plumose edge (6). Larvae induce erythematous papules that sometimes ulcerate and resemble oils or large pustules, with a central orifice of about 1 mm, representing the larval respiratory pore. The lesions are usually painful (especially when larvae are still present) and pruritic, and produce sensations of movement under the skin. Lesions are located predominantly in exposed areas (7) and areas of contact with clothing and footwear, such as feet, buttocks, and external genitalia.

Histopathology is not necessary for diagnosis, but usually reveals intense inflammatory infiltrate with abundant eosinophils surrounding larvae. (2)

In our patient, ultrasound confirmed absence of living larvae within the cavity. *D. hominis* larvae show spontaneous movement in positive lesions and can be detected with ultrasound. Lesions in the hypodermis and dermis showed increased echogenicity of surrounding tissue, probably due to edema and inflammation (8).

Diagnosis is established by comparing the lesion appearance with images of boils, abscesses, and inclusion of foreign body reaction cysts. Based on failed antibiotic therapy and travel to an endemic zone, myiasis should be considered in the differential diagnosis. Treatment consists of larval extraction through the respiratory orifice using pressure or a fine forceps or punch (9). Topical or oral ivermectin (10) can shorten the time to larval elimination.

Physicians should be aware of this condition when travelers from endemic regions present with furuncular lesions, especially if movement is felt within the lesions or if lesions fail to heal. Myiasis is easily diagnosed based on clinical suspicion and epidemiological history, and is simple to treat.

References:

- Kuria SK, Kingu HJ, Villet MH, Dhaffala A. Human myiasis in rural South Africa is under-reported. S Afr Med J. 2015;105:129-33.
- Hasegawa M, Harada T, Kojima Y, Nakamura A, Yamada Y, Kadosaka T, *et al.* An imported case of furuncular myiasis due to Cordylobia anthropophagi which emerged in Japan. Br J Dermatol. 2000;143:912-4.
- Marco de Lucas E, Díez C, Gutiérrez A, Montiaga F, Arnáiz J, Mandly AG, *et al.* Unusual MRI findings in a patient with history of frontal fracture and skin infestation by fly larvae, as a possible sign of intracerebral myiasis. Clin Neurol Neurosurg. 2008;110:725-8.
- Arocha J, Moreno A, Díaz J, Valladares B, Batista N, González A. Myiasis caused by *Dermatobia hominis*. Enferm Infecc Microbiol Clin. 1996;14:453.
- Totkova A, Jakubovsky J, Totka A, Bohmer D, Stankovic I, Holeckova K, *et al.* The first imported human infestation with furuncular myiasis in man in the Slovakia and current knowledge of myiasis. Bratisl Lek Listy. 2016;117:321-7.
- 6. Solomon M, Lachish T, Schwartz E. Cutaneous myiasis. Curr Infect Dis Rep. 2016;18:28.
- Gaci R, Delord M, Parola P, Brouqui P, Lagier JC. Extended perineal *Dermatobia hominis* myiasis in a traveler returning from South America. JAMA Dermatol. 2015;151:1389-90.
- Bouer M, Rodriguez-Bandera AI, Albizuri-Prado F, Lobos A, Gubeling W, Wortsman X. Real-time high-frequency colour Doppler ultrasound detection of cutaneous *Dermatobia hominis* myiasis. J Eur Acad Dermatol Venereol. 2016;30:e180-e181.
- Pascoal G, Oliveira FQ, Siqueira RR, Lopes MG, Martins MPN, Gamonal AC. Excision of furuncular myiasis larvae using a punch: a simple, practical and aesthetic method. An Bras Dermatol. 2016;91:358-61.

10. Puthran N, Hegde V, Anupama B, Andrew S. Ivermectin treatment for massive orbital myiasis in an empty socket with concomitant scalp pediculosis. Indian J Ophthalmol. 2012;60:225-7.

Carmen Rodríguez-Cerdeira^{1,2}, Miguel Carnero Gregorio^{1,3}, Roberto Arenas Guzman⁴

¹Efficiency, quality and costs in Health Services Research Group (EFISALUD), Galicia Sur Health Research Institute (IIS Galicia Sur), SERGAS-UVIGO, Vigo, Spain ²Dermatology Service, Hospital do Meixoeiro and University of Vigo, Vigo, Spain ³Department of Biochemistry, Genetics and Immunology, University of Vigo, Vigo, Spain ⁴Mycology and Parasitology Service, Hospital Manuel Gea González, Mexico City, Mexico

Corresponding author:

Carmen Rodriguez Cerdeira, MD Dermatology Service, Meixoeiro Hospital CHUVI, C/Meixoeiro S/N 36200 Vigo Spain carmencerdeira33@gmail.com

> Received: August 26, 2017 Accepted: July 11, 2018