

bacillus was subsequently encountered in 2014, in a study that compared the faecal microbiota of 13 Thai vegetarians and non-vegetarians and was found in a 61-year-old vegetarian who did not eat either yoghurt or eggs but did drink milk.⁷ A recent study reported that, in more than half of patients with gastric cancer, the most prevalent microorganisms in the gastric epithelium were bacteria of the species *Fusobacterium nucleatum* (whose pathogenic role in colorectal cancer is well-known) and *C. colicanis*, suggesting a possible contribution of these bacteria in the development or progression of stomach cancer.⁸ Our case corresponded to transient bacteraemia in a patient with laboratory data suggesting infection, and to date no signs of gastric or colon neoplasia have been found.

In conclusion, we reported the first documented case of *C. colicanis* bacteraemia in an immunocompetent patient, highlighting the importance of *C. colicanis* as a human pathogen. Further studies are needed to elucidate the pathogenesis and risk factors of *C. colicanis*-related invasive infections such as bacteraemia.

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Conflicts of interest

The authors declare no conflicts of interest.

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References

- Onderdonk AB, Garrett WS. Gangrena gaseosa y otras enfermedades asociadas a *Clostridium*. Mandell, Douglas y Bennett. Enfermedades infecciosas Principios y Práctica. 8th ed. Barcelona: Elsevier; 2016. p. 2923–7.
- Simmon KE, Mirrett S, Reller LB, Petti CA. Genotypic diversity of anaerobic isolates from bloodstream infections. J Clin Microbiol. 2008;46:1596–601.
- The European Committee on Antimicrobial Susceptibility Testing. Breakpoint tables for interpretation of MICs and zone diameters. Version 6.0; 2016. <http://www.eucast.org>
- CLSI. Performance standards for antimicrobial susceptibility testing. CLSI supplement M100S. 26th ed. Wayne, PA: Clinical and Laboratory Standards Institute; 2016.
- Greetham HL, Gibson GR, Giffard C, Hippe H, Merkhofer B, Steiner U, et al. *Clostridium colicanis* sp. nov., from canine faeces. Int J Syst Evol Microbiol. 2003;53(pt 1):259–62.
- Poelein A, Schilling T, Bhaskar Sathya Narayanan U, Daniel R. First insights into the draft genome of *Clostridium colicanis* DSM 13634, isolated from canine feces. Genome Announc. 2016;4, <http://dx.doi.org/10.1128/genomeA.00385-16>, pii: e00385-16.
- Ruengsomwong S, Korenori Y, Sakamoto N, Wannissorn B, Nakayama J, Nitis-inprasert S. Senior Thai fecal microbiota comparison between vegetarians and non-vegetarians using PCR-DGGE and real-time PCR. J Microbiol Biotechnol. 2014;24:1026–33.
- Hsieh YY, Tung SY, Pan HY, Yen CW, Xu HW, Lin YJ, et al. Increased abundance of *Clostridium* and *Fusobacterium* in gastric microbiota of patients with gastric cancer in Taiwan. Sci Rep. 2018;8:158.

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Foruncular myiasis. A biting tumor



Miasis foruncular. Un tumor mordiente

Foruncular myiasis is a rare entity in our environment and, as it is usually an imported disease, it is poorly known and suspected in our country. Hence the importance of reporting the very few cases that come across in our health system.

We report the case of a 24-year-old female who presented with a frontal scalp tumor that had grown gradually during the month prior to her admission. She had traveled to Peru a month before and denied fever or other symptoms, except for itching within the lesion. She was assessed by a plastic surgeon showing a lump with a hole which resembled an epidermoid cyst and was scheduled for surgical excision of the mass (Fig. 1a). After incision, a maggot was found (Fig. 1b), and resection was performed without incidents. It was directly sent to the Microbiology Department where it was identified as a *Dermatobia hominis* larva, based on the characteristics of its posterior spiracle (Fig. 1c), with three spiracular slits, each spiracular plate has three split curves directed toward the belly and slightly toward the middle.¹ After extraction, patient was discharged with amoxicillin/clavulanic acid as preemptive treatment of secondary bacterial infection of the wound, presenting no further complications.

Myiasis means invasion of organs and tissues by fly maggots.² The most common fly species that cause these affection are *Cordylobia anthropophaga*, original of the African continent, and *D. hominis*, from Central and South America.^{3,4} The number of cases of myiasis in countries from continents different to these is increasing due to rise on migration to tropical regions.⁵ To our knowledge, there are less than 30 cases of myiasis caused by *D. hominis* reported in Spain.⁶

D. hominis has three forms on its cycle: adult fly, pupa and larva. Only larvae are parasites,⁷ and present three different stages. It is interesting that *D. hominis* is unable of biting because of its poorly developed buccal apparatus. Female adult flies capture hematophagous insects of other species and deposit their eggs on them (around 15–20 eggs at a time).⁵ As the hematophagous vector bites a mammal, the eggs hatch and larvae fall onto the mammal's skin, where after penetrating and reaching the epidermis, remain growing for 33–41 days. When a 3rd stage larva is under the skin, it fixes its hooks (Fig. 1d) in soft tissue and orientates its respiratory organ, located in its last segment, toward the surface. This respiratory organ is used for species identification,^{1,4} based on the morphology of this posterior spiracle (peritrem, button and spiracular slit).⁷

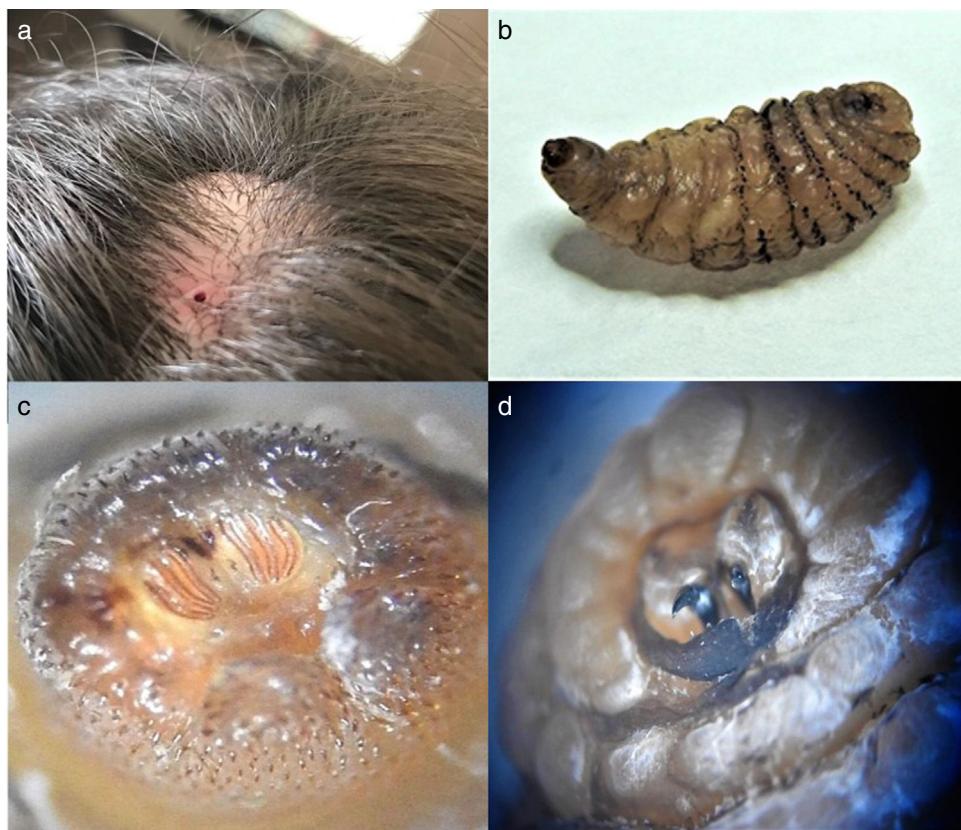


Fig. 1. Skin lesion in the scalp and parasite. (a) Lump with a hole. (b) *Dermatobia hominis* larva. (c) *D. hominis* posterior spiracle. (d) *D. hominis* hooks.

Clinically, in the first 24 h, a bug-bite lesion usually appears at the inoculation site, which grows wider and deeper within days, producing pruritus at first and then pain, even referring patients a sense of movement.⁵ Treatment consists in removal of the maggot. First stage larvae can be removed by expression, but in late stages the tail portion of the larvae is wider than the anterior portion and the presence of spines make the extraction very difficult, resulting in the need of surgical removal.^{6,8}

In conclusion, it is important to report the study of these cases, because of their increasing number, to make an accurate treatment. It is also important to instruct travelers about using protective clothing and insect repellent to prevent possible infestations.

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References

- Beaver P, Jung R, Cupp E. Moscas de la inmundicia y moscas productoras de miasis. In: Tay J, Gutiérrez M, García Y, editors. Parasitología Clínica de Craig Faust. 3. ed. Mexico, S.A.: Masson editores; 2003. p. 679–94.
 - Tornés GB, Brizuela CM, Brizuela EY. Miasis furunculosa por *Dermatobia hominis* "Colmoyote". MEDISAN. 2003;7:124–8.
 - Serra Moltó A, Molina Martín JC, Mengual Verdú E, Hueso Abancens JR. External ophthalmomyiasis due to *Dermatobia hominis*. A case report. Arch Soc Esp Oftalmol. 2018;93:402–5.
 - Francesconi F, Lupi O. Myiasis. Clin Microbiol Rev. 2012;25:79–105.
 - Calleja-Pascual JM, Pérez-Urrutia E, Calvo-Gainzaran MA, Lecuona-Irigoyen A, Miskovic-Karacsonyi N, Iturralte-Iriso J. Miasis furuncular por *Dermatobia hominis* en viajera a un país tropical. Gac Médica Bilbao. 2008;105:101–4.
 - Alkorta Gurrutxaga M, Beristain Rementeria X, Cilla Eguiluz G, Tuneu Valls A, Zubizarreta Salvador J. Miasis cutánea por *Cordylobia anthropophaga*. Rev Esp Salud Pública. 2001;75:23–9.
 - Soler-Cruz MD. The study of myiasis in Spain during the past century years. Ars Pharm. 2000;41:19–26.
 - Robbins K, Khachemoune A. Cutaneous myiasis: a review of the common types of myiasis. Int J Dermatol. 2010;49:1092–8.
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