

Case Reports

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Myiasis due to *Dermatobia hominis* simulating lipoma

*Miíase por *Dermatobia hominis* simulando lipoma*

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ABSTRACT

Introduction: *Dermatobia hominis* is one of the main etiologic agents of furunculoid myiasis. It is more common in intertropical countries and induces the formation of a papule or nodule in the skin with a central orifice. When the lesion's diagnosis is not made or when the larva does not go out, it can progress to a tumor's formation. We report a rare case of a lipoma-simulating lesion in the lower limb of a man living in the countryside. The etiological diagnosis was made exclusively through histopathological examination, which showed a cyst with exogenous material to the center, compatible with *D. hominis*, in a clear degradation process.

Keywords: Larva; Lipoma; Myiasis

RESUMO

Introdução: *Dermatobia hominis* é um dos principais agentes etiológicos da miíase furunculoide. É mais comum em países intertropicais e induz a formação na pele de pápula ou nódulo com orifício central. Quando o diagnóstico da lesão não é realizado ou quando a larva não é estruída, pode evoluir para a formação de uma tumoração. Relatamos um caso raro de lesão simuladora de lipoma no membro inferior de um homem morador da zona rural. O diagnóstico etiológico foi realizado por meio do exame histopatológico, sendo possível visualizar um cisto com material exógeno ao centro, compatível com *D. hominis*, em nítido processo de degradação.

Palavras-chave: Larva; Lipoma; Miíase

INTRODUCTION

Dermatobia hominis, of the family Cuterebridae, is the most common etiologic agent of furunculoid cutaneous myiasis.¹ Its life cycle has a particular characteristic, called foresia, in which the female lays its eggs in the abdomen of a blood-sucking insect, establishing an interspecific harmonic relationship.² More than 50 species can carry the eggs, especially *Sarcopro-musca pruna*, *Musca domestica*, and *Haematobia irritans*.³ When the insect bites an individual, the eggs come into contact with the human skin's heat, hatching. Then, the larva penetrates the skin, even if it is intact.¹ The larva remains inside the formed papule or nodule for five to ten weeks, and during this period, it passes through the first, second, and third larval stages. In the complete cycle, the mature larva emerges on the skin's surface during the night, falls to the ground, and forms the pupa. One month after leaving the host, the adult insect hatches, keeping the cycle.¹

When the larva is placed on human skin, extraction is often done before the cycle is complete. However, in rare cases, the larvae encyst in the subcutaneous tissue and may progress to nodules' formation. In the present article, we report the case of a patient with a subcutaneous tumor in the lower limb, with a long evolution, whose clinical characteristics simulated a lipoma. However, ultrasonography was compatible with a foreign body, and, after excision of the lesion, histopathological examination allowed the visualization of the larva.

CASE REPORT

A 56-year-old man, farmer, residing in the countryside, sought medical assistance due to the appearance, two years ago, of an asymptomatic lesion on the medial aspect of his left leg. The patient denied trauma preceding the development.

He presented a subcutaneous tumor of 4 cm in diameter on physical examination, with softened consistency, not adhered to the deep planes, painless on palpation, and without a central hole. The skin overlying the lesion did not show signs of inflammation (Figure 1). The clinical hypothesis was of lipoma. However, as the patient presented varicose veins in the lower limbs, we requested ultrasonography with Doppler Color for surgical planning. The imaging showed a fusiform hypoechoic capsule located in the subcutaneous tissue, and, in the center, there was a 17x6 mm hyperechoic image, which could be compatible with a foreign body.

The complete excision of the lesion was performed according to previous demarcation (Figure 2). Upon histopathological examination of the material, we macroscopically observed a nodular formation measuring 1.8 cm, with a single cavity filled with a yellowish liquid. There was an intense chronic inflammatory process, with gigantocellular reaction of the foreign body type and granulation tissue with vascular neoformation and collagen degradation. In the center, there was an exogenous material compatible with *D. hominis* in a clear degradation process (Figures 3 and 4).



FIGURE 1: Subcutaneous nodule (4 cm in diameter), covered by normal skin, with softened consistency, not adhered to the deep planes, painless on palpation, without central hole



FIGURE 2: Planning of the surgical excision of the lesion

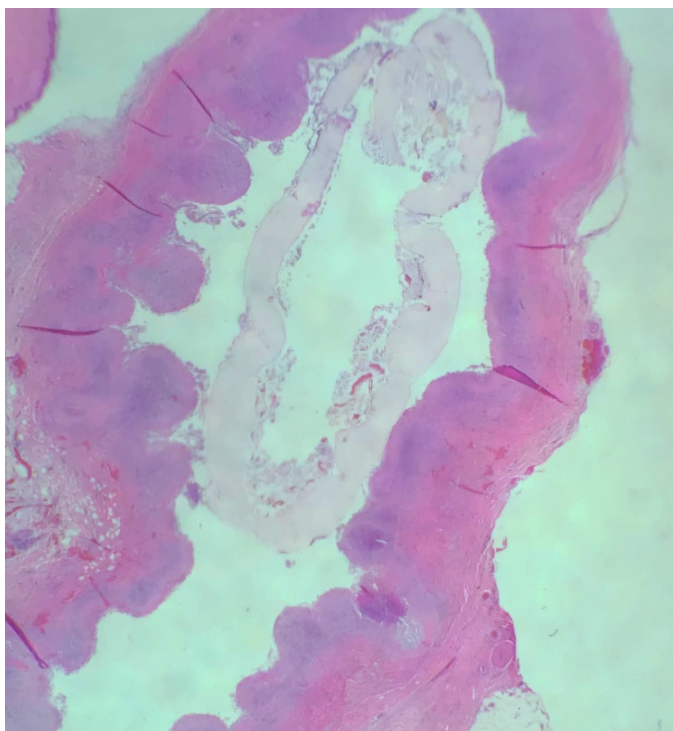


FIGURE 3: Histological section showing cystic lesion in soft tissues with central parasitic structure compatible with *Dermatobia hominis*. The epidermis above the lesion is intact (Hematoxylin & eosin, 100x)



FIGURE 5: Fourteenth postoperative day

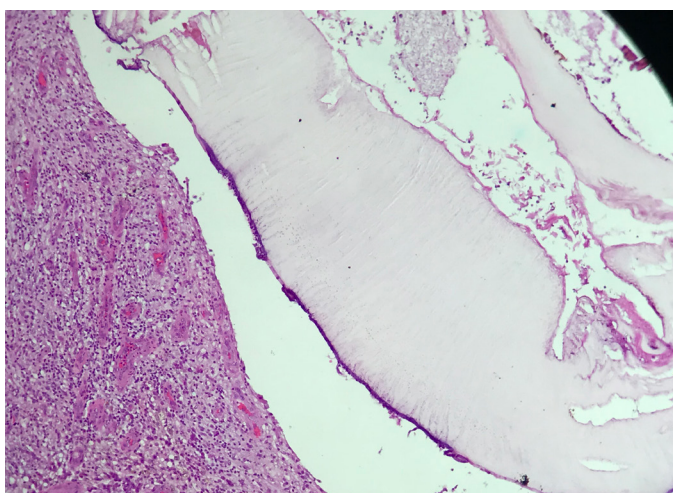


FIGURE 4: Cystic lesion with intense chronic inflammatory process, gigantocellular reaction of the foreign body type and granulation tissue, in addition to vascular neoformation. Presence of a parasite compatible with *Dermatobia hominis* (Hematoxylin & eosin; 400x)

The patient evolved with adequate wound healing (Figure 5) and underwent routine dermatological follow-up for two years.

DISCUSSION

The main agents of furunculoid cutaneous myiasis are *Dermatobia hominis*, *Cordylobia anthropophaga*, *Cuterebra sp.*, and *Wohlfahrtia sp.*^{4,5} It is more common in developing (intertropical) countries, such as those in Central America, South America, and sub-Saharan Africa.⁶ The incident cases in individuals coming from other areas of the globe result, in general, from travelers who were in an endemic area, implying a significant diagnostic challenge when returning to their country of origin.^{7,8}

Dermatobia hominis has rows of dark backward spines, a pair of hooks in the mouth, striated muscles, as well as an external cuticle that involves the internal organs.⁹ Larva infestation is related to poor hygiene habits, living in the countryside (as in the case reported), and low socioeconomic status.⁸

D. hominis' presence in the skin induces a papule or a nodule formation, with a central orifice of approximately 1 mm (corresponding to the invertebrate's respiratory pore and visualized by dermoscopy), from which a serosanguinous or purulent secretion leaks.^{7,8}

In general, manual extraction of the larva is not a challenge, and the occlusion of the orifice with petroleum substances facilitates the process.⁵ However, when the diagnosis of the lesion is not performed correctly or when the larva is not broken (spontaneously or under manipulation), it can evolve to the formation of a tumor that simulates an epidermal cyst, lipoma (as

the case presented), or even soft tissue malignancies.^{10,11} In these cases, the only effective procedure is surgical excision.

CONCLUSION

We report the case of a patient with furunculoid cutaneous myiasis, in which the larva was not expelled, evolving

to form a large cystic lesion simulating a lipoma. This lesion persisted for two years, a period much longer than the usual. In endemic countries, especially in rural dwellers or under strict hygiene conditions, the possibility of larvae infestation should be considered. ●

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