

## Cutaneous Human Myiasis due to *Dermatobia Hominis*

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### ABSTRACT

*This is a case report of cutaneous myiasis due to Dermatobia hominis in a female physician who had travelled to Belize. Cutaneous myiasis is endemic in Central and South America but is seldom reported from the Caribbean islands.*

## La Miasis Cutánea Humana Debido a *Dermatobia Hominis*

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### RESUMEN

*Éste es un reporte de caso de miasis cutánea debido a Dermatobia hominis en una mujer médico que había viajado a la Belice. La miasis cutánea es endémica en América Central y América del Sur, pero rara vez se reporta en las islas del Caribe.*

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### INTRODUCTION

Cutaneous myiasis in Central and South America is usually caused by the larva of the human botfly *Dermatobia hominis*. It often presents as a furuncle-like lesion and therefore may be misdiagnosed. The condition should be considered in the differential diagnosis of furuncle-like lesions in individuals who have travelled recently within these regions. This is the case report of a physician who acquired cutaneous myiasis during a visit to Belize and in whom the diagnosis was delayed.

### CASE REPORT

A female physician, living in Trinidad, presented for consultation about two weeks after returning from a trip to Belize in Central America. She reported that she believed she had been bitten by insects during her stay but it was not until one week after her return to Trinidad that she noticed itching in the skin overlying the right scapula and the left upper arm. One week later, she developed a seropurulent discharge from

the sites accompanied by pain. She treated herself with oral tetracycline with little improvement.

On examination, there were furuncle-like lesions discharging bloody, purulent material. A presumed diagnosis of infected insect bites was made and a three-day course of azithromycin was prescribed. There was initial improvement but the lesions later flared with intermittent pain of increasing severity. The sites were hyperpigmented, indurated, discharging bloody, purulent exudate (Fig. 1) and were tender



Fig. 1: Indurated, hyperpigmented lesion with bloody, purulent exudate on right scapula.

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on palpation. The diagnosis of cutaneous myiasis was then suspected and an attempt was made to extrude the larvae by firm pressure on both sides of each lesion. Creamish-coloured material about 10 mm x 5 mm was produced from both lesions and was thought to represent larval casing (Fig. 2). The patient was advised to dress the wounds with topical mupirocin and was to be followed-up.

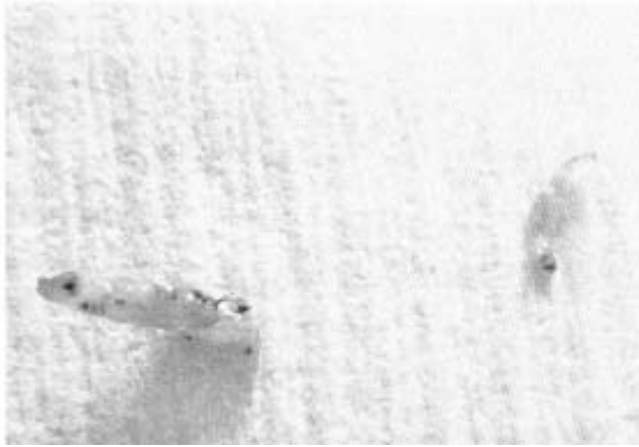


Fig. 2: Casings of larvae of *Dermatobia hominis* expelled from both lesions.

Three days later, the patient called to say that she felt something moving under her skin and was experiencing short bursts of pain. When she presented, one end of the motile larva was then visible through the opening of the scapular lesion. A small cruciate incision was made under local anaesthesia and the larva was removed with forceps, with some difficulty, such that it was crushed in the process (Fig. 3). Attempts to do the same with the second wound were



Fig. 3: Crushed larva extracted from right scapular lesion.

unsuccessful and it was decided that it should be left alone to see if the larva would surface.

One day later, while the second wound was being dressed, the physician's friend – an entomologist – applied firm pressure and the intact larva emerged. It was identified

as *Dermatobia hominis* by the external characteristics of a more or less oval shape with relatively small, dark, thorn-like spines on the anterior segments (Fig. 4). Both wounds healed without further complications.



Fig. 4: Intact larva expelled from left shoulder lesion.

## DISCUSSION

*D. hominis* (also called the human botfly or torsalo) is common in parts of Central and South America and causes obligate myiasis in people and animals such as cattle (1, 2). There have been reports of cases of cutaneous human myiasis imported from these regions into the United States of America (3), Europe (4–6) and Japan (7). Of the twenty cases of human myiasis in Jamaica reported by Rawlins (8), one occurred in a nurse from Belize and was believed to have been due to *D. hominis*. Sue-Ho and Lindo (9) reported a case of cutaneous furuncular myiasis due to *D. hominis* in a Jamaican resident returning from Belize. The cases described from Trinidad (10, 11) are presumed to have been acquired locally, the last having been described in 1997 (11). To our knowledge, this is the first case report of cutaneous human myiasis occurring in an individual who has travelled to Trinidad from Belize.

Bot flies (Order Diptera, Family Cuterebridae) are large (12–18 mm) with a dark-blue metallic-coloured abdomen, dark bluish-gray thorax and a mainly yellowish head. These flies are found primarily in lowland forests (1, 2). Females do not deposit eggs directly on the host but instead capture other Diptera and glue their eggs on the carrier's body with a quick-drying adhesive. When the carrier alights on a human or some other warm-blooded animal to feed, the larvae emerge from the eggs and drop onto the host's skin. Within 5–10 minutes, the larvae penetrate the skin and burrow into the subcutaneous tissues. Each larva produces a boil-like swelling which has an opening through which the larva breathes. Larval development, which goes through three stages, is completed in a small pocket excavated in the subdermal layer of the host and lasts between 4–18 weeks.

Mature larvae wriggle out of the skin and drop to the soil for pupation. The entire life cycle requires 3–4 months.

The patient described in this report developed two lesions which looked to her like papular urticaria and later became furuncular. She also experienced the typical symptom of movement within the skin that is produced by the mobile larvae.

Although the condition may be self-limiting, it may be treated in one of several ways. The wound may be widened surgically under local anaesthesia and the larva expelled by firm pressure on the sides of the wound or use of forceps, as was attempted in this patient. Alternatively, occlusion of the opening with petroleum jelly or oil would impair the respiration of the larva and cause it to come to the surface to breathe. Other methods such as the application of bacon strips, ethyl chloride spray, chloroform and injection of lidocaine have also been described (12). Oral and topical ivermectin have also been reported to be effective (13). In our patient's case, surgical intervention was successful in one lesion although the body of one larva was macerated in the process. The second larva was extruded later with little effort.

The absence of reports or statistics regarding the occurrence of *D hominis* infestation in humans does not preclude its existence in the Caribbean islands. The study by Chadee and Rawlins (10) suggests that the fly is endemic in Trinidad. This patient is believed to have acquired the botfly larvae when she was bitten by insects during her visit to Belize.

Physicians should be aware of this condition as a differential diagnosis for furuncular lesions in persons travelling to these endemic regions, especially if movement is felt with-

in the lesions or if they fail to heal. Travellers to countries where the botfly is endemic should use topical insect repellents, as well as protective clothing and other physical measures, to ensure that they are not bitten by insects.

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