

CASE REPORTS

# Use of ultrasound to aid management of late presentation of *Dermatobia hominis* larva infestation

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**Abstract**

**Tropical myiasis is likely to present in the larger second instar larval stage in the United Kingdom. The use of ultrasound to confirm the size and determine method of removal is described.**

(J Accid Emerg Med 1997;14:177-178)

Keywords: ultrasound; *Dermatobia hominis*; myiasis

**Case report**

A 29 year old female was referred to the accident and emergency unit by her general practitioner after she saw what she thought was the head of a maggot poking out from an abscess on her right cheek. She had recently returned from a three month stay in equatorial South America and could recall a mosquito bite on her cheek approximately three weeks earlier. The bite had caused little pain and had been slow to heal. It had continued to discharge blood stained pus, and her GP had started ciprofloxacin two days before we saw her. The patient described being recently aware of movement in the tissues of her cheek.

On examination there was a small puncture wound two centimetres anterior to the right



Figure 2 Operative removal of *Dermatobium hominis* larva.

tragus with surrounding inflammation. There was mild tenderness on palpation.

The history was consistent with larval infestation in the soft tissues of the face and so we contacted the Institute of Tropical Medicine for advice. They recommended occluding the breathing hole with clear oil and catching the larva with forceps when it emerged for air. This was attempted for nearly three hours using olive oil, KY Jelly, and Vaseline, and despite frequent sightings of a thin white tip, the larva could not be extracted. A small incision was made to enlarge the hole, revealing a significant cavity in the soft tissues of the face, close to the facial nerve.

Ultrasound examination of the cheek confirmed "a living organism just under 1 cm long by 3 mm wide within a small cavity" (fig 1). By now the patient was quite distressed and so she was admitted by the maxillofacial surgeons for exploration under general anaesthesia.

An Internet search that night found a report by Brewer *et al*<sup>1</sup> which recommended placing a piece of bacon over the hole, allowing the larva to burrow into it, making extraction easier.

The patient had a very disturbed night, with the larva wriggling frantically until it stopped moving completely early in the morning. It was assumed the larva had died so it was removed by operation, the area was curetted, and the small incision sutured (fig 2). The patient made an uneventful recovery.

The specimen was identified as a second instar larval stage of the human bot fly,

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Figure 1 Ultrasound scan of *Dermatobium hominis* larva in cheek.

*Dermatobia hominis*, measuring 11 mm long × 4 mm diameter.

### Discussion

The human bot fly, *Dermatobia hominis* (also known as torsalo, berne, or nuche), is a member of the *Cuterebridae*, a family of the New World flies, which are usually parasites of rodents, rabbits, and hares.<sup>2</sup> It is particularly common in the lowland forest areas of Central and Southern America, although it has been recorded at 3000 feet. The female fly, resembling a bluebottle, deposits packets of eggs on mosquitoes and other flies including *Sarcophagus*, *Musca*, or ticks, *Amblyomma*. These eggs are deposited on the skin, particularly the face and shoulders in humans. The warmth induces the larva to hatch from the egg, and within five or ten minutes the larva burrows into the subcutaneous tissues. The larva has a distinctive shape, with attenuation of the posterior end, which may be exposed through a hole in the skin. As the proximal part of the larva is much larger than the

breathing hole, direct extraction is very difficult. This attenuation is most marked in the second stage. Development in the tissues takes from six to 12 weeks, after which the larva emerges, drops to the ground, and pupates. The adult fly emerges in three to four weeks.

The recommended treatment described by Brewer *et al* starves the larva of oxygen and allows extraction when it emerges. This technique failed in our hands, and our concerns about the facial nerve led us to formal exploration. Use of ultrasound to localise and size such larvae has not previously been reported and we would recommend it as an aid to management of these unusual infestations.

We thank Dr Harvey Dexter for performing the ultrasound.

- 1 Brewer TF, Wilson ME, Gonzalez E, Felsenstein D. Bacon therapy and furuncular myiasis. *JAMA* 1993;270:2087-8.
- 2 Snow MH, Colbridge MJ, Edwards SK. Some unwelcome holiday souvenirs. *Hospital Update* 1996;22(2).

## Tropical myiasis: an unwanted holiday souvenir

John Kitching

### Abstract

**A case of tropical myiasis is described and its treatment outlined.**

(*J Accid Emerg Med* 1997;14:178-179)

Keywords: tropical myiasis; treatment

A 24 year old female marine biologist who had recently returned from Belize presented to the Southampton Accident and Emergency Department with an itchy, unsightly lesion on her left upper arm. It had been present for three weeks and had been slowly growing. She was convinced that she could feel movement within the lesion and was concerned that there might be a parasitic larva present (known locally in Belize as beef flies).

Examination of her left upper arm revealed an erythematous raised lesion, 5 cm in diameter, with a central aperture. On closer examination, movement could be seen within the aperture. A diagnosis of tropical myiasis was made.

### Discussion

Myiasis is the infestation of living animals by the larvae of flies.<sup>1-3</sup> The two major species affecting man are the New World bot fly (or beef fly) (*Dermatobia hominis*) and the Afro-tropical tumbu fly (*Cardylobia anthropophagia*).

The bot fly adult is rarely seen. The female lays her eggs on biting arthropods, such as mosquitoes, and the eggs hatch when in



Figure 1 Bot fly larva emerging.

contact with a warm blooded animal. The larval stage lasts about 10 weeks and is marked clinically by a steadily enlarging boil with a central aperture, through which the larva respire. The larva grows up to 1 cm in length and is covered in ridges of spines which may cause pain on movement. If left alone, the larva will pupate and eventually emerge as an adult fly.

### TREATMENT

If the central aperture is large, the larva can be removed by infiltrating local anaesthetic around its burrow, which forces it to the

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