Ultrasonographic appearance of soft-tissue infestation with *Dermatobia hominis* larvae in the returning traveller

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**DESCRIPTION**

A young adult woman presented to our emergency department with a 5-week history of two lesions on the left wrist over the volar ulnar zone. She had returned from travelling through South and Central America. She recalled being bitten by a mosquito on the skin, where the lesions subsequently developed, while on a beach. The initial localised pruritus resolved; however, circular erythematous advancement of the lesions was seen, and subsequent development of two discrete papules with central puncta (figure 1). She reported daily serosanguinous discharge for the past 4 weeks from the puncta and denied any sensation of formication.

On the morning of presentation, a large amount of serous discharge occurred from the medially located lesion, from which after the application of pressure locally, she extricated one larva. Her recent past medical history was notable for treatment for typhoid with a 1-week course of ciprofloxacin while in South America. She was systemically well and denied any fevers. Routine blood tests taken on the day of presentation were unremarkable with an eosinophil count of 0.2×10⁹/L (reference range 0.1–0.4×10⁹/L).

Her case was discussed with the Hospital for Tropical Diseases, London, who confirmed that the lesions represented furuncular myiasis. *Dermatobia hominis*—the human botfly—is endemic to South and Central America. The female fly deposits eggs on a blood-sucking insect such as a mosquito. When the insect lands on a host for a blood meal, the eggs hatch and the larva burrows under the skin of the patient.

**Figure 1** Ulnar aspect of the patient’s left wrist held in supination, demonstrating two discrete papular lesions with central puncta.

**Video 1** Targeted soft-tissue ultrasound of the medial lesion. A non-compressible lesion of heterogeneous echogenicity measuring 10 mm by 5 mm was identified in the middle of the screen between 2 mm and 7 mm in depth. Spontaneous movement of the larva is present.

**Video 2** Targeted soft-tissue ultrasound of the medial lesion with colour Doppler. The larva is located in the middle of the video between 2 mm and 7 mm in depth.

**Figure 2** *Dermatobia hominis* larva removed in the department.
Patient’s perspective

I noticed two small red bumps the morning after I had presumably been bitten after being on a beach while travelling in South and Central America. In the first week I felt extreme itchiness and shooting pains down the length of my forearm. Over the first 2 weeks, the bumps grew and remained red/inflamed. The itchiness started to subside, but the pain continued. Pus and a clear, yellowish liquid would leak out of the two bumps, and the bumps were hard to the touch. I never saw anything move, nor was I suspicious of anything growing under my skin.

About a month and a half after the initial appearance of the bumps, a scab formed over the larger, lower bump. The scab stayed for maybe 2 days until I mindlessly picked it off; when this happened, I saw a small, but deep, hole. I squeezed the bump (I had tried previously to squeeze the bump but nothing except liquid had emerged) and a thick, white sac-like shape emerged covered with black dots. I squeezed some more, and the tail of the larva emerged, and the whole thing eventually popped out. With very little convincing required, I headed to hospital.

On arrival, I was seen in triage by a doctor, and a blood test was taken. Later an ultrasound scan was performed on my wrist revealing the second larva and I was given options for removing it I decided to have it extracted in the department that same day. Later an ultrasound scan was performed on my wrist. The ultrasound revealed the second larva and I was given options for removing it. With very little convincing required, I headed to hospital.

After discussion of treatment options with the patient, the larva was removed with surgical incision (figure 2). Real-time visualisation of the larva with bedside ultrasound was performed to minimise the risk of localised allergic reaction due to trauma to the larva during excision and removal.

Learning points

► Consider soft-tissue ultrasound for residual cutaneous lesions in the returning traveller to identify parasitic infection.
► If undertaking bedside excision of *Dermatobia hominis*, real-time ultrasound can aid the identification and removal of the larva without damaging it.
► Travellers should be advised to undertake measures to prevent exposure to *Dermatobia hominis*, such as the use of protective clothing and insect repellent.

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