Nonhealing boils

It seemed clear that the growth was linked to a recent trip to a tropical location. But the true cause wasn't the one that was originally suspected.

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A HEALTHY WOMAN IN HER 60S presented to the clinic with a 1-month history of red, itchy, and slightly painful nodules on the scalp and back. The patient had travelled to Belize for a vacation in the weeks prior to the onset of the lesions. She was initially given a course of cephalexin for presumed furunculosis at another clinic, without improvement.

Examination revealed inflamed nodules with a central open pore on the left upper back (**FIGURE 1**) and the occipital scalp. Notably, when the lesions were observed with a dermatoscope, intermittent air bubbles were seen through the skin opening.

- WHAT IS YOUR DIAGNOSIS?
- HOW WOULD YOU TREAT THIS PATIENT?

FIGURE 1
Nonhealing boil on the upper back

IMAGE COURTESY OF STEPHEN C. HO, MD, FAAD

Diagnosis: Furuncular myiasis

Given the patient's clinical presentation and travel history, furuncular myiasis infestation was suspected and confirmed by punch biopsy. Pathologic exam revealed botfly larvae in both wounds, consistent with the human botfly, *Dermatobia hominis* (**FIGURE 2**). Myiasis is not common in the United States but should be suspected in patients who have recently traveled to tropical or subtropical areas. Furuncular myiasis describes the condition in which fly larvae penetrate healthy skin in a localized fashion, leading to the development of a furuncle-like nodule with 1 or more larvae within it.

Dermatobia hominis is the most common causative organism for furuncular myiasis in the regions of the Americas. Patients typically present with 1 lesion on an exposed part of the body (eg, scalp, face, extremities). The lesions typically contain a central pore with purulent or serosanguinous exudate.[1] Upon dermatoscopic inspection, one can often see the posterior part of the larva or the respiratory spiracles, which look like tiny black dots on the surface of the wound. The organism may also be indirectly viewed through respiratory bubble formation within the exudate.[1,2] Diagnosis is confirmed by extracting the larvae from the wound and having the species identified by an experienced pathologist or parasitologist.

FIGURE 2
Biopsy specimen containing *Dermatobia hominis* larvae

IMAGE COURTESY OF RICHARD POLLACK, PhD

Mode of transmission

Phoresis is the name of the process by which *Dermatobia hominis* invades the skin.[3] The female fly lays her eggs onto captured mosquitos using a quick-drying adhesive. The eggs are then transferred to the host by a mosquito bite. The host's body heat induces egg hatching, and the larvae burrow into follicular openings or skin perforations. This leads to the development of a small erythematous papule, which can further lead to a furuncle-like nodule with a central pore that allows the organism to respirate. When ready to pupate, the larvae work their way to the skin surface and drop to the soil, where they can further develop. After pupation, the fly hatches and develops into an adult, and the cycle repeats.

Common infectious and inflammatory lesions are in the differential Dx

The differential diagnosis includes bacterial abscess, exaggerated arthropod reaction, and ruptured epidermal cyst. With our patient, the travel history and unique exam findings led to the suspicion of myiasis.

Bacterial abscess is likely to have more notable purulence with response to appropriate oral antibiotics and no bubbling phenomenon on exam. It is also unlikely to be present for 1 month without progressive worsening.

Exaggerated arthropod reaction usually manifests as a smooth, red, papular lesion without bubble formation from a central pore.

Ruptured epidermal cyst would be considered if there was a known preexisting cyst that recently changed. No bubble formation would be observed from the central pore.

Extraction is the treatment of choice

Treatment of furuncular myiasis involves

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removing the larvae or forcing them out of the lesion. Wounds can be covered with a substance, such as petrolatum, nail polish, beeswax, paraffin, or mineral oil, to block respiration.[3] Occlusion may be needed for 24 hours to create adequate localized hypoxia to force the larvae to migrate from the wound and allow for easier manual extraction. Surgical removal of the larvae is also effective. A cruciate incision can be made adjacent to the central pore to avoid damaging the organisms.[3] A topical, broad-based antiparasitic, such as a 10% ivermectin solution, has also been successfully used to treat furuncular myiasis. This approach works by either inducing larval migration outward or simply killing the larvae.[3]

Our patient recovered well after we performed a punch biopsy to make a larger wound opening and remove the intact larvae. JFP

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