8

A 26-Year-Old Female Traveller Returning from Ghana With a Boil on the Leg

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Clinical Presentation

History

A 26-year-old German student presents to the clinic because of a localized swelling on her left leg. She has just returned from a 6-week trip to Ghana.

The swelling has developed slowly over the past 3 weeks. It is itchy, but not painful. There is no history of fever; no history of arthropod bites. The patient is otherwise fine.

Clinical Findings

There is localized swelling on the left leg, about 1.5 cm in diameter (Fig. 8.1). The skin surrounding the swelling is slightly hyperaemic. The boil is covered by a blackish scab. There is no lymphadenopathy. The patient is afebrile while the rest of the physical examination is normal.

• **Fig. 8.1** Boil on the left leg covered with a dark scab. (Courtesy Dr Sebastian Dieckmann)

Questions

1. What are your most important differential diagnoses?
2. How would you approach this patient?

Discussion

A young traveller presents with a localized swelling on her leg after backpacking in Ghana. The swelling has been growing slowly and there are no systemic signs or symptoms.

Answer to Question 1

What Are Your Most Important Differential Diagnoses?

There is a localized swelling with a central scab. This lesion may look similar to an eschar seen in rickettsial disease or in cutaneous anthrax, yet the absence of systemic symptoms renders these differentials unlikely. The clinical presentation suggests a topical process.

Spider bites may cause lesions with an eschar-like central necrosis (e.g. the brown recluse spider); however, the slow growth of the lesion over several weeks makes this differential unlikely.

Localized bacterial skin and soft-tissue infections such as folliculitides, furuncles, carbuncles or abscesses are very common among backpacking travellers. A hot and humid tropical climate combined with low standards of hygiene favour bacterial and fungal skin infections. Itchy mosquito bites may serve as a portal of entry. Bacterial spread often occurs via scratching or contaminated items such as towels and shavers.

Another important differential diagnosis in this case is an infestation with fly maggots (myiasis). The slow growth of the boil, the absence of lymphadenopathy and systemic symptoms as well as the localized itch make myiasis the most likely differential diagnosis.

Answer to Question 2

How Would You Approach This Patient?

Gently remove the scab and take a closer look at the lesion using a magnifying glass.

The Case Continued…

The scab was removed and a whitish matter was detected underneath. Using a magnifying glass, one could see that the matter was not a pustular head but appeared to be pulsating and oozing transparent fluid. This appearance is typical of myiasis – the pulsating end of the larva seen contains the respiratory spiracles.

The lesion was covered with white petroleum jelly and bandaged. The patient returned 2 days later for review. The maggot of a Tumbu fly was easily removed with a pair of forceps. The remaining lesion looked clean and no further treatment was required.

• **Fig. 8.2** Larva of a botfly (*Dermatobia hominis*). (Courtesy Dr Sebastian Dieckmann)

SUMMARY BOX

Myiasis

Myiasis is the infestation of live humans and vertebrate animals with larvae (maggots) of flies, which feed on the host's dead or living tissue, liquid body-substance or ingested food. It derives from the Greek word "myia" which means "fly." Cutaneous furuncular myiasis is one of the most common travel-associated skin disorders.

In sub-Saharan Africa, myiasis is usually caused by the larvae of *Cordylobia anthropophaga,* also known as Tumbu fly, Mango fly or Putzi fly. Adult female flies deposit their eggs on sandy ground or on damp laundry spread out on the ground or hung on a clothesline to dry. Normal hosts are dogs and rodents. Humans become infected when lying on the ground or wearing contaminated clothes without prior hot ironing. Larvae hatch and burrow into the skin. Over the following 2 to 3 weeks the developing larvae cause an itchy and at times painful 'blind boil.' Lesions are usually sterile because of bacteriostatic substances produced in the larvae's guts.

Treatment aims to deprive the larvae of oxygen, which prompts them to extrude from the skin. This can be achieved by applying white petroleum jelly or liquid paraffin on the lesion to block their respiratory spiracles. Immature larvae are best left to develop for a while because they are difficult to retrieve, and maceration of the larva can lead to inflammation and superinfection. Even untreated, cutaneous myiasis is self-limiting because the mature larva has to leave the host and pupate elsewhere.

In Central and South America, myiasis is caused by *Dermatobia hominis,* the human botfly (Fig. 8.2). Unlike the Tumbu fly, this species lays its eggs directly on exposed skin. Furthermore, it deposits its ova on blood-sucking insects such as mosquitoes, flies or ticks, which afterwards convey them to the human host, a technique called 'hitch-hiking.'

Removal of botfly larvae can be slightly challenging because of their shape, and the process may require local anaesthesia and cruciate incision.

Additional forms of myiasis exist whereby larvae may invade various body cavities such as nasal sinuses, ears, mouth, eye, vagina or anus (body cavity myiasis). Wounds can be infested as well.

Further Reading

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3. Francesconi F, Lupi O. Myiasis. Clin Microbiol Rev 2012;25(1): 79–105.
4. Vasievich MP, Martinez Villarreal JD, Tomecki KJ. Got the travel bug? A review of common infections, infestations, bites and stings among returning travelers. Am J Clin Dermatol 2016;17: 451–62.