Facial furuncle on 3-year-old boy camping in Ontario

In August 2000, a 3-year-old boy was brought to our infectious disease clinic 10 days after a camping trip in eastern Ontario. Earlier in the week, his parents had sought medical advice because a mosquito bite on the boy's left cheek, one of several he had sustained while camping, had been expanding and becoming more erythematous. Antibiotics had been prescribed for presumed cellulitis, but the lesion had continued to expand and had begun to drain serosanguinous fluid. The parents became concerned when they noticed movement under the skin in the area of the nodular swelling (1 × 1 cm) (Fig. 1). They squeezed the furuncle, and a small white larva (Fig. 2) was discharged.

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At the clinic, we diagnosed furuncular myiasis. The Central Public Health Laboratory in Toronto later identified the larva as an immature botfly of the Cuterebridae family, probably the rodent botfly. The boy's cheek nodule resolved without further treatment over the next few months, and there was no scarring.

Myiasis refers to tissue infestation by flies of the order Diptera (2 winged). There are 3 cutaneous forms of myiasis: furuncular, wound and dermal. Furuncular myiasis occurs when a lesion resembling a furuncle or boil develops after fly larvae enter the skin. Wound myiasis occurs when the larvae infest dead wound tissue, and dermal myiasis results when live dermal tissue is infested. All 3 types have been reported in Canada,[1,2] but furuncular myiasis is most common, often occurring in travellers returning to Canada from endemic regions such as Central and South America and Africa.[3]

In North America, furuncular myiasis is often due to *Cuterebra* species.[4–7] Infected individuals are often children from rural areas.[6] Rodents and rabbits are the natural hosts for the fly, which lays its eggs in the animal's nest or vegetation in the environment. Humans who touch the vegetation inadvertently acquire mature eggs or larvae on their fingers, and infection occurs when these are introduced into facial orifices or broken skin. The larvae breathe and excrete waste through a hole, or operculum. In our patient, a mosquito bite may have created a portal of entry for the larva.

Furuncular lesions due to *Cuterebra* botflies commonly present as single papules on an exposed skin area, most often on the head, neck or chest.[6] Single lesions can also be seen with *Dermatobia* botflies in South America, whereas *Cordylobia* flies in Africa may cause multiple skin lesions. Wound and dermal myiasis are diagnosed when larvae are seen on the wound surface, or when there is erythematous tracking and pain as larvae migrate through the skin. Rarely, such larvae can migrate throughout the body, causing cerebral myiasis or blindness from retinal detachment.[5]

Occlusion of the larva's breathing hole forces the larva to migrate from the lesion completely or to a point where it can be readily extracted with forceps and sent for identification.[7] Petroleum jelly under a dressing is a commonly used occlusive agent. Other agents, including bacon fat,[8] have also been used. Traumatic means, such as attempting to expel the larva with pressure or surgical excision, are not recommended. Complications such as secondary bacterial infection are uncommon. Although some authors recommend antibiotic prophylaxis,[9] most do not prescribe antibiotics if the larva is removed intact and the wound appears clean with no surrounding cellulitis or drainage. General insect avoidance measures (wearing of protective clothing and footwear, use of insect repellents) reduce the risk of myiasis.

Appropriate recognition and management of cutaneous myiasis may save patients from multiple medical visits and courses of antibiotics for presumed bactarial furunculosis.

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