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DERMATOBIA HOMINIS — IN BELIZE

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During a tour of duty in Belize from August 1979 to February 1980 I had occasion to treat many cases of myiasis due to the larva of *Dermatobia hominis.* These larvae were known to soldiers and locals alike as 'beefworms'.

Introduction

Myiasis by the larvae of *Dermatobia hominis* is a not unusual condition in troops who are serving, or who have served recently in Belize. It is quite possible for a case to present more than three months after return to a temperate zone. Although complications such as abscess, tetanus, erysipalis and lymphangitis are described they are rarely seen if the condition is diagnosed and treated properly.

Clinical features

The condition presents as an itchy domed lump. It is often mistaken for a boil by the patient. As the larva is deposited by a biting fly, usually a mosquito, the lump of the myiasis is often closely associated with an insect bite. On examination one feature is constant, a hole, small (½ to 1 mm) and perfectly round in the skin overlying the inflammatory lump. Occasionally a hand lens will be necessary. It is a definite hole with smooth vertical sides and not a punctum. It is through the hole that the larva respires by means of a spiracle tube. Slight pressure on the swelling sometimes produces a serious discharge from the hole.

The infestation usually occurs on areas exposed to bites. The length of time the larva is present before presentation varies according to the site. Larvae in fleshy areas can grow much larger without exciting any reaction whereas those where the skin is tight, for example, scalp and temple, present when the larvae are very small. The larvae may appear either singly or in multiples; the most I saw was 12 scattered all over one Gurkha soldier.

Treatment

One and only one tentative squeeze may occasionally be rewarded with a small larva popping out. Once the larva had grown to any size squeezing is impossible and only succeeds in making things worse. The larvae are best removed surgically after local infiltration anaesthesia with lignocaine. A cruciate incision is made taking care not to centre it upon the hole as this can result in parts of the larva being sliced off and left in the wound. The depth of incision required depends upon the size of the larva, which has to be estimated from

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the size of the reaction. Approach the cavity containing the larva slightly from the side and remove it with forceps. It should be checked to ensure it is complete. The larger larvae can grip the tissues very firmly and it is possible to to tear pieces off. If you are unable to find the larva after a thorough search do not probe too deep as there is the risk of pushing foreign material deeper into the wound. Cover the incision and inspect every two hours or so. The larva will be found on the dressing or on the surface on subsequent examination (in one case it took 36 hours to appear). After removal the wound should be left open to drain. All cases we treated healed with minimal scarring. In Belize prophylactic antibiotic was given, Cloxacillin 250 mg qds for five days, but in the United Kingdom cases have not been so treated and no problems have been encountered.

Traditional treatment

The local Mayan Indians of Toledo, South Belize used two different methods to remove 'beefworms'. In the first an oily substance, mineral or vegetable was placed on the skin over the lump. After a wait of sometimes hours the maggot (larva) pushed its spiracle tube up through the oily layer. When this happened the jungle doctor quickly picked the tube up between the fingernails of his thumb and forefinger. More often than not the spiracle tube was torn off the maggot in the process. This method of extraction works well with the Cordylobia maggot (Tumbu fly) of Africa but in these cases the maggot is more suitably shaped. Subsequently a freshly extinquished cigarette butt was broken apart and a strand of tobacco was taken and moistened with saliva. The strand was then pushed down the hole in the lump. This caused an immediate increase in the irritation and patients described the sensation as if the maggot had started to crawl around. After 5 to 10 minutes the irritation lessened. The lump was then squeezed, a method that occasionally produces results provided the larva is small. The idea is that the nicotine eventually paralyses the maggot and prevents it from gripping the sides of its cavity. From the little I have seen of this method it cannot be recommended because it rarely works. In my experience the only cases which discharged purulent matter were those where local Indian methods had been tried and failed. The lump pointing and discharging was only seen when an abscess had formed. In all these cases the larva was dead and decomposing when removed.

Entomology of Dermatobia hominis

The second instar larva of *Dermatobia hominis* is flask shaped, making it particularly difficult to remove by lateral pressure. The larva has rows of spines which cause pain when it moves. The spines enable it to grip the sides of the cavity (Fig. 1). The larva takes 7 to 15 weeks to reach full size and it must then leave its human host to pupate. The actual length of time the larva spends in human skin was studied in a rather unusual experiment by Busk[1] published in 1912. He allowed the larvae to develop in his own arm; the time taken was 104 days from infestation to the larva dropping out to pupate.

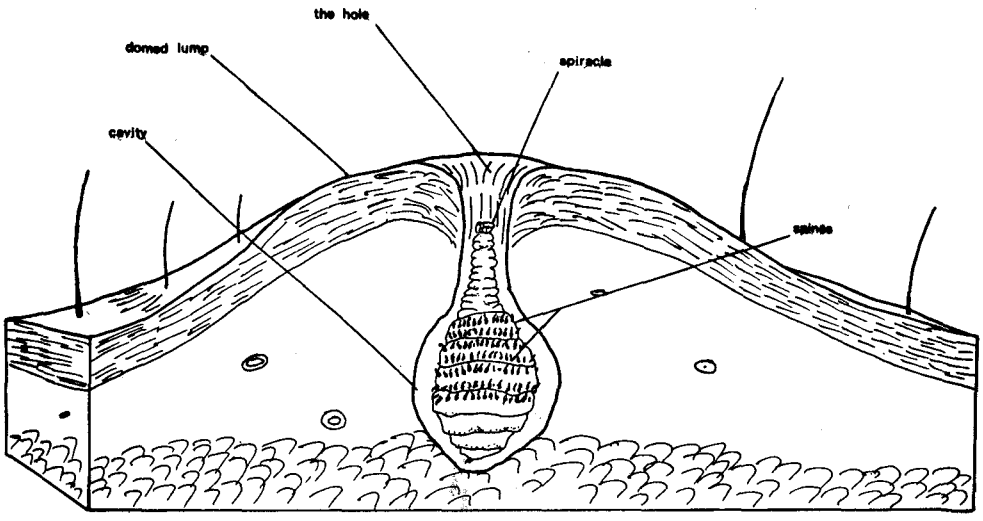

Fig 1. *Diagram of a second instar larva of Dermatobia hominis in skin*

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Further reading

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