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, erysipelas 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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132

Dermatobia Hominis — in Belize

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 com-
plete. 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, Cloxacin 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 Cordy-
ylobia maggot (Tumbu fly) of Africa but in these cases the maggot is more
suitably shaped. Subsequently a freshly extinguished 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 expe-
rience 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

REFERENCE


Further reading
