CASE REPORT

A 29-year-old man with an unusual cause of an abscess

Shivangi Vachhani, Anne Cioletti

Department of Internal Medicine, George Washington University, Washington DC, USA

Correspondence to

Dr Shivangi Vachhani, shivangi.vachhani@gmail.com

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SUMMARY

A 29-year-old man with no medical history presented with a left scalp abscess and left temporal oedema. He was initially started on treatment for community acquired Methicillin-resistant *Staphylococcus aureus* with sulfamethoxazole and trimethoprim. Over the next 2 weeks, his swelling improved; however, he continued to have localised swelling and drainage from the area. Eventually, larvae of a botfly were removed from his scalp, and his symptoms resolved.

BACKGROUND

With the increasing rates of international travel, it is very important that physicians are aware of the various tropical diseases. We present the case of a botfly infection. Botfly is found in Central American countries and its presentation can be mixed with a bacterial abscess as was the case with our patient initially. It is thus very important to be aware of this infection and recognise its early signs.

CASE PRESENTATION

A 29-year-old healthy man presented to the clinic with a 2-day history of a left scalp mass. Two days prior to his initial presentation, he noticed three scabs on his left scalp with associated pruritus. These symptoms progressed to left temporal oedema and purulent drainage from his scalp on the day prior to presentation. He denied any fevers, chills or any pain.

His medical and family history was negative, and he was not on any medications. He denied any tobacco or drug use and drank alcohol only socially. He did report recent travel to Belize 2 weeks prior to his presentation. His review of system was otherwise negative.

On presentation, his vital signs were within normal limits and he was afebrile. As shown in [figure 1](#), his physical examination showed left temporal oedema with tracking from the scalp, as marked by arrows. He was also found to have a firm abscess with purulent drainage on the left scalp. He was started on sulfamethoxazole and trimethoprim to treat for suspected Methicillin-resistant *Staphylococcus aureus* (MRSA) abscess. He noticed improvement of the left temporal oedema and decrease in purulent drainage on starting the antibiotics.

Over the next few days, the patient started experiencing alopecia around the abscess as well as occasional parasthesia leading to increased pruritus. [Figure 2](#) shows an area overlying the abscess with loss of hair follicles as well as three punctate lesions on the scalp from which purulent drainage was

Figure 1 Left temporal oedema with tracking from the scalp, marked by arrows.

observed. Despite finishing the course of his antibiotics, his abscess and drainage persisted, so he was restarted on another course of sulfamethoxazole and trimethoprim and instructed to use warm compresses over the area.

After restarting the antibiotics and warm compresses, the patient's wife tried to express purulent material when a larva shown in [figure 3](#) was expressed instead. Analysis of this larva confirmed it was a larva of a bot fly. A total of three larvae were removed from his scalp, one from each punctate lesion shown in [figure 2](#). On the removal of the larvae, his symptoms improved, and he had complete resolution over the next few weeks.

OUTCOME AND FOLLOW-UP

On removal of the botfly, the patient did well. His scalp drainage and abscess improved drastically and had complete resolution of his symptoms.

DISCUSSION

This is a case of a young man with recent travel to Belize who presented with a 2-day history of a

Figure 2 Area overlying the abscess with alopecia and three punctate lesions previously draining.

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Figure 3 One larva that was removed from the scalp.

scalp abscess and left temporal oedema. He was started on sulfamethoxazole and trimethoprim to treat for community-acquired MRSA with incomplete resolution of his symptoms; after a couple of weeks with attempts to drain the abscess, larvae of the human botfly were extracted instead. The initial improvement of symptoms with antibiotics is believed to be due to a superimposed bacterial infection around the larvae, but without expression of the fly, symptoms would have persisted.

Botfly is approximately 2 cm in length bluish coloured fly that resembles bumble-bee.¹ The larva of this fly is known to infest the skin of mammals and live out the larval stage in the subcutaneous layer.² The species of botfly known to infect humans is called *Dermatobia hominis*.¹ It is native to Central as well as South America.¹ The adult fly lays its eggs on the abdomen of a mosquito where it hatches to form the first larval instar.² When the mosquito bites the human, the larva penetrates the skin and burrows itself into the subcutaneous layers.² As the larva

burrows deeper, it feeds on the host's body and exudates. It uses spines on its body to anchor itself and breaths through posterior spiracles.²

The treatment is asphyxiation using either petroleum or a scotch tape which causes the larva to migrate out of its host.² Although it is rarely fatal, the larva can live in subcutaneous layer for as long as 10 weeks and induces formation of a painful nodule. It can occur in any part of the body including eyes, ears and nose.² The exact prevalence of botfly in USA is unknown; however given the increasing rates of travel to foreign countries, it is important to recognise the symptoms of this infection.

Learning points

- ▶ Botfly is a cutaneous larval infection which is rare in the USA but given the increased foreign travels, it is important to recognise the manifestations of this infection.
- ▶ Infestation and burrowing of the botfly larva leads to an inflammatory response and nodule which can often be confused with a skin abscess from a bacterial infection.
- ▶ Treatment of a botfly infection consists of asphyxiation using petroleum which causes the larva to migrate out. Care needs to be taken so that the whole larva is removed to prevent infection of any retained larval products.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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