CASE REPORT

Cordylobia anthropophaga: a rare surgical emergency in the UK

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SUMMARY

A 38-year-old healthy Caucasian man presented to the surgical team with a punctured wound on the right side of his scalp. He had been on a month's holiday to Uganda and South Africa. He recalls a painful swelling progressively increasing over 2 weeks. This was associated with sharp shooting pains and swelling on the right side of the face. He sought medical opinion while on holiday. Broad spectrum oral antibiotics were advised. The condition did not settle with the treatment so he consulted his general practitioner (GP) on return. The GP referred him to the surgical team for management of a scalp wound. On examination, a live pulsating larva was seen within a painful 1.5×2 cm puncture wound on the right side of the scalp. The larva was removed. Microbiology identified the larva as *Cordylobia anthropophaga*. No further treatment was advised. To our knowledge, the patient remains well to date.

BACKGROUND

This is a rare pathogen in the UK to attract emergency surgical attention. To our knowledge, no previous case reports of *Cordylobia anthropophaga* affecting the scalp have been reported in literature.

In areas where this disease is not common, healthcare professionals should be aware of this condition when considering a differential diagnosis of skin wounds.

To our knowledge, no similar case reports have been published in the BMJ in the past 25 years.

CASE PRESENTATION

A 38-year-old healthy Caucasian man presented to the surgical team with a painful lump on the right side of his scalp for 2 weeks. While on honeymoon holiday in South Africa and Uganda, he noticed a painful area of his scalp which progressively increased in size. He then developed sharp shooting pains and swelling across the right side of his face.

He had consulted health professionals abroad and was started on a 5-day course of oral amoxicillin and flucloxacillin. The symptoms did not settle; therefore, on his return to the UK, he consulted his general practitioner (GP). He was referred via the GP to the surgical team on call at his local hospital for management of a scalp abscess.

The patient was otherwise fit and well with no significant previous medical or family history. He had no other recent foreign travel and his immediate contacts were all well. He was on no regular medication and had no known allergies.

On examination, the patient was systemically well but was clearly distressed with pain in the scalp. His vital signs were normal. There was a 2×1.5 cm puncture wound with surrounding induration. No pus was seen exuding from the wound. A live larva was seen pulsating inside the wound.

DIFFERENTIAL DIAGNOSIS

Scalp abscess

Furuncular myiasis other than tumbu fly.

TREATMENT

The wound was thoroughly cleaned with chlorhexidine. Swabs of the puncture site were taken. Extraction of the larva was offered under local anaesthetic. However, the patient chose to have the larva removed without any anaesthetic. The larva was then removed with heavy forceps (figures 1 and 2). After larva extraction, the patient's local symptoms soon settled. He was then discharged with analgesia. He was instructed to visit his practice nurse for wound care and his GP for the results of larva analysis.

OUTCOME AND FOLLOW-UP

The pale brown larva measured 20×8 mm (figure 3) and was sent to microbiology for analysis. It was

Figure 1 Larva being extracted from scalp.

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Figure 2 Scalp wound after larva extraction.

identified as the larva of *C anthropophaga* (the tumbu fly). There was no growth from the swabs after 48 h and no oocysts visualised. Microbiologist recommended no further treatment. It was recommended that the patient should have GP follow-up with a stool sample and a full blood count looking for eosinophilia. We advised the GP that any secondary bacterial infection of the site should be treated with oral coamoxiclav.

Stool sample showed no ova, cysts or parasites.

Figure 3 *Cordylobia anthropophaga* in specimen pot.

DISCUSSION

This is a case of furuncular myiasis caused by *C anthropophaga*. Myiasis, as defined by International Statistical Classification of Diseases (10th revision) (ICD-10),¹ is the parasitic 'infestation by larvae of flies'. Infestation can be classified by site; that is

1. Cutaneous
2. Ocular
3. Nasopharyngeal
4. Aural
5. Genitourinary
6. Intestinal
7. Other

There are three main types of cutaneous myiasis: furuncular, creeping (migratory) and wound (traumatic).² Furuncular myiasis can be caused by *C anthropophaga* ('tumbu fly'), *Dermatobia hominis* ('botfly'), *Wohlfahrtia vigil*, or *Cuterebra species*.²

Literature describes the life cycle of *C anthropophaga* as follows; *Cordylobia* flies lay their eggs in wet sand or soil, or on damp clothing.³⁻⁴ Larvae hatch after a couple of days and penetrate the skin of any human or animal which comes in contact.³ The larva grows under the skin, forming a painful furunculoid skin lesion with an overlying breathing hole.³ After a couple of weeks, the fully mature larva is delivered through the hole and then pupates into the adult fly.³⁻⁴

The majority of *C anthropophaga* infestations occur on non-exposed parts of the body such as the trunk or thorax.⁵ Cases of the face, hands or feet are much more unusual.⁵ To our knowledge, no case reports of *C anthropophaga* affecting the scalp have been reported in the literature.

C anthropophaga infestation is extremely common in tropical African countries, especially during the wet season.⁶ There are many case reports of travellers returning to Europe or the USA who have picked up myiasis on a tropical holiday.³⁻⁷⁻¹⁷ However, there are rare reports of *C anthropophaga* infections perhaps having been acquired in European countries, such as Spain,¹⁸ Portugal⁶ and Holland.¹⁹

This condition can be successfully treated by applying a greasy substance such as petroleum jelly over the breathing hole, which, in turn, induces the larva out of the skin.⁴ Some authors have recommended removal of the larva with forceps as an alternative.⁴ It has been noted that myiasis caused by *C anthropophaga* will heal well with few complications once the larva is removed. Any secondary bacterial infection can be treated with oral or intravenous antibiotics. Very rarely do more serious complications occur.²⁰

Prevention of *C anthropophaga* myiasis involves ironing clothes in order to prevent larvae from hatching from eggs deposited on clothes.⁴ The heat is thought to kill the eggs.⁴

C anthropophaga in England

Case reports of English travellers returning from Africa with *C anthropophaga* infection are relatively uncommon.³⁻⁹⁻²¹ Notably, two of these cases were identified in London³⁻²¹; a multicultural centre where one would expect a higher incidence of tropical disease.

This is an unusual presentation of *C anthropophaga* infestation for the following reasons. First, the patient presented to a hospital in the English countryside outside London which serves a predominantly Caucasian population not known for frequent exotic travel. Second, the larva was found on the scalp: an unusual site. Third, the surgical team were expecting management of a scalp abscess.

In the literature, myiasis is often seen by physicians in either primary care or the emergency department. It is rare for *C anthropophaga* to be managed by the emergency surgical team.

This case highlights the need for a wide range of differential diagnoses when faced with an abscess-like lump, regardless of the demographics. This must be borne in mind especially now that travel to exotic countries is more popular than before. We suggest that a history of foreign travel should always be elicited. Foreign travel of close contacts should also be considered: there have been reports of eggs being transported on clothes, hatching in a distant country and infecting someone who has not travelled.²¹ Some centres have started to use ultrasound probes in order to distinguish between a simple abscess and furuncular myiasis.⁷

Learning points

- ▶ *Cordylobia anthropophaga* is a rare parasite to be seen in the UK.
- ▶ General surgeons attending to surgical emergencies should be aware of this pathogen.
- ▶ Any larva extracted from a wound must be sent for microbiological analysis.
- ▶ Removal of the larva provides relief of symptoms.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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