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An unusual case of myiasis

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Summary Myiasis—the feeding of fly larvae on living mammals, may have various clinical presentations depending on the tissues or organs involved. Myiasis is a common travel associated skin disorder as a consequence of short visits to developing countries. It is the fourth most common travel associated disease. The most common clinical manifestations of fly larvae infestation include inflammatory and allergic reactions. Ear, eye and respiratory tract infestations are not uncommon and the human botfly Dermatobia hominis is the most recognised causative organism. We present an unusual case report of a myiasis in the upper lip of a patient admitted under the maxillofacial team at South Manchester Hospital.

Introduction

Myiasis—the feeding of fly larvae on living mammals has various clinical presentations depending on involved tissues or organs [1]. Myiasis is a common travel associated skin disorder as a consequence of short visits to developing countries [2,3].

The commonest clinical manifestations of myiasis infestation include inflammatory and allergic reactions. Ear, eye and respiratory tract infestations are also frequently encountered [2,3,5], and the human botfly Dermatobia hominis is the most recognised causative organism [4].

We present an unusual case report of a myiasis in the upper lip of a patient admitted to the maxillofacial department.

Presentation

A 52-year-old Caucasian male patient presented to the accident and emergency at South Manchester Hospital earlier this year. He was complaining of a 'painful cold sore' on his upper lip. He also developed itchiness, erythema and swelling of the upper lip 7 days prior to his attendance. Additionally the patient reported intermittent stabbing pain radiating to the right infra orbital area.

He was systemically well on presentation. He was treated 3 years back for squamous cell carcinoma of tongue by resection and reconstruction with

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Figure 1 Fly larvae removed of alive from upper lip.

vascularised radial free forearm flap. Examination showed oedema and erythema of the upper lip.

Once a dental infection had been excluded by thorough dental examination and dental radiographs, a provisional diagnosis of labial cellulitis of unknown cause was made, and he was admitted to treat the spreading cellulitis with intravenous antibiotics Co-Amoxiclav and analgesic for pain control.

On day 2 of admission the patient was haemodynamically stable but multiple small vesicles and crusting had appeared on the lip throughout the night. He was placed on oral and topical Aciclovir in addition to the current antibiotic treatment since the vesicles raised the suspicion of herpes simplex infection.

Later the same evening, the duty doctor was summoned urgently to the ward. The patient's pain had intensified. The doctor found him in tears, stating ''something was moving'' in his lip. He had developed a sinus tachycardia due to pain. Examination showed the upper lip had significantly more oedema, erythema and tenderness to palpation. A punctuate area was evident (Fig. 1).

The patient was promptly scheduled for incision and drainage of his upper lip. On infiltration of local anaesthetic, a small maggot which was alive and moving emerged from the area thought to be pus. This was recovered and localised debridement of his lip was carried out. No pus was found (Fig. 2).

Figure 2 Swollen upper lip with crusting and exit point of fly larvae (arrowed).

Post-operatively the patient was questioned further. Travel history revealed a recent journey to Gambia two weeks prior to his symptom onset. He recalled a bite to the upper lip by a fly while he was outdoors in the swimming pool. He made a full recovery and was discharged home the following day.

Discussion

Human infestation by Dermatobia hominis is not usually asymptomatic. Failure to completely remove the maggot can lead to foreign body reactions and secondary granulomas once the acute phase has settled.

The acute phase is typically associated with a cellulitic response to secondary bacterial infection by Staphylococcus aureus [6]. Many treatment regimes exist and have been documented with varying results [7]. Infestation of the tissues of humans by larvae hatching from eggs laid by non-biting flies on wet clothes, animal faeces and other humid objects. The larvae hatch and penetrate the skin, causing inflamed nodules in the host. When mature, they wriggle out and fall to the ground to pupate. Infestations may be classified as accidental, facultative or obligate. Initially the lesion starts as a small papule containing the larvae which may be itchy or pricking at intervals. After 24 h of larval deposition, a small slightly reddened papule 2—3 mm in diameter appears which enlarges into a dome shaped nodule that conveys a stinging sensation and considerable pain. As a papule increases in size, the recurring symptoms may force the patient to seek attention from the doctor. Local lymphadenopathy, fever and general malaise may occur.

The most common method to deal with suspected cutaneous myiasis is to occlude the central punctum thereby asphyxiating the larvae. Spontaneous expulsion of the larvae has also been reported to occur with a number of traditional methods including the application of bacon fat, wax, glue, chewing gum, and nail polish to the affected tissue [7]. Once a larvae has been asphyxiated by occlusion of the punctum if not spontaneously expelled, it must be surgically removed. Patients in endemic areas resort to traditional methods as it is cheap and readily carried out by a lay man. In our case significant manual pressure was required for extrusion of the myiasis larvae.

Travellers entering into endemic areas like tropical Mexico, South America, Central America and Sub-Saharan Africa should wear tight woven cotton clothing and use good quality insect repellents and nets for prevention of myiasis infestation. An urban epidemic of human myiasis was reported in 2008 in French Guiana due to exceptional weather conditions, notably high rainfall which may have facilitated the maturation of pupae [8].

This report highlights myiasis infestation in the lip of an individual from non-endemic country who has travelled to tropical destinations or engages in outdoor activities. Misdiagnosis and mismanagement can occur owing to limited awareness of the condition outside endemic areas.

Conflict of interest statement

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References

[1] Boggild AK, Keystone JS, Kain KC. Furuncular myiasis: a simple and rapid method for extraction of intact Dermatobia hominis larvae. Clin Infect Dis 2002;35:336—8.
[2] Boruk M, Rosenfrld RM, Alexis R. Human botfly infestation presenting as a pre-auricular mass. Int J Pediatr Otorhinolarryngol 2006;82:576—84.
[3] Hall M, Wall R. Myiasis of humans and domestic animals. Adv Parasitol 1995;35:257—334.
[4] Steffen R, Rickenbach M, Wilhelm U, Helminger A, Schar M. Health problems after travel to developing countries. J Infect Dis 1987;156:84—91.
[5] Masoodi M, Hosseini K. The respiratory and allergic manifestations of human myiasis caused by larvae of the sheep bot fly (Oestrus ovis): a report of 33 pharyngeal cases from southern Iran. Ann Trop Med Parasitol 2005;97(1):75—81.
[6] Johnston M, Dickinson G. An unexpected surprise in a common boil. J Emerg Med 1996;14:779—81.
[7] Brewer TF, Wilson ME, Gonzalez E, Felsenstien D. Bacon therapy and furuncular myiasis. JAMA 1993;270(17):2087—8.
[8] Clyti E, Deligny C, Nacher M, Del Giudice P, Sainte-Marie D, Pradinaud R, et al. An urban epidemic of human myiasis caused by Dermatobia hominis in French Guiana. Am J Trop Med Hyg 2008;79(5):797—8.