Furuncular Myiasis in a Child: A Case Report and Literature Review

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ABSTRACT

Myiasis is an ectoparasitic infestation of tissue. Most cases of furuncular myiasis in Saudi Arabia are acquired from the Southern region of Saudi Arabia, including the Al Baha and Asir regions. Some authors consider these areas to be part of the Afro‑tropical zoogeographical belt where infection is most likely to occur. Some studies have reported posttrauma myiasis in oral cavities in children. However, myiasis is rarely reported in children who do not suffer from skin erosion or trauma. We are reporting the case of a young, otherwise healthy girl who visited Al Taif, in the Western region of Saudi Arabia, who acquired an accidental infestation of fly larvae. To the best of our knowledge, this is the first report of indigenously acquired myiasis outside the Southern region of Saudi Arabia. This is significant in the epidemiology of this parasite, which appears to have expanded from the Southern to the Western region of Saudi Arabia.

Key words: Children, myiasis, Saudi Arabia

INTRODUCTION

Myiasis is infestation by the larvae, it feeds on the host’s dead or living tissue, body substances, or ingested food. Cutaneous myiasis is myiasis affecting the skin. Wound myiasis occurs when fly larvae infest open wounds in a living host, mucous membranes and body cavity.

Possible factors that make humans susceptible to wound myiasis include poor social conditions and hygiene, advanced or very young age and chronic skin diseases.

Very rare to be seen in intact skin. We describe a case acquired via contact to infected animal in a normal young girl without skin lesions.

CASE REPORT

A 5‑year‑old girl presented to the emergency room with fever and a swelling on her left calf of 3 days duration. The patient and her family had visited Al Taif, during that time she had ridden a horse. The patient’s mother
described the horse as being malnourished and unclean with many small swellings, mainly on the neck. She reported that there was no history of trauma to the leg that could have caused the swelling but 3 days before presentation to the emergency room, the patient had intense itching on the left calf. At that time, her mother noted swelling and redness at the same site. The swelling slowly progressed during the subsequent 2 days after which her mother noted a small nodule in the middle of inflamed area, which had a black center. No discharge was noted at that time. The child also started to complain that she could feel movement underneath the skin on the left calf. The mother squeezed the black nodule and four larvae were discharged from the nodule [Figure 1a].

During the physical examination, it was noted that the patient had fever and abnormal bulging at the site of nodule. When the nodule was squeezed, five larvae emerged from the same opening. A lower limb examination revealed swelling in the posterior aspect of the left calf (2 cm × 3 cm), with redness and tenderness on palpation [Figure 1b]. At the center of the swelling, there was a raised black opening with no discharge. Cutaneous myiasis was suspected and petroleum jelly was applied to asphyxiate any other larvae. Exploratory surgery was also undertaken to exclude any additional larvae at the site. No more larvae were found. The patient was discharged the following day without any further complications.

**DISCUSSION**

Myiasis is considered to be a rare human disease predominantly found in tropical and subtropical[1,2] locations. In Saudi Arabia, cutaneous myiasis has been reported to occur frequently in Asir and Al Baha.[2-4] Myiasis can be classified in two different classifications; it can be classified based on the area affected (anatomical classification of myiasis) which includes furuncular, wound, intestinal and cavitary myiasis or it can be classified based on ecological living (ecological classification) which include obligate, facultative and accidental larvae.[5] The anatomical classification system is based on the one proposed by Bishopp, later modified by James and by Zumpt.[6,7]

In cutaneous myiasis, which is the most common site of involvement, the patient experiences typical exposure followed by the development of a lesion at the site of exposure with intense pruritis.[8] The patient may also develop fever. The eggs, located on the mosquito vectors are the infectious agent in myiasis.

Once the eggs are on human skin, they hatch due to external stimuli, such as body heat which makes it possible for the larvae to flourish. The newly hatched larvae are typically 6 mm in length, cream in color and are characterized by small fine tentacles that help them anchor within the tissue. After invading, the initial larvae grow for 7 days until they require oxygen and develop a pore for oxygen exchange.[9] Diagnosis mainly depends on the patient’s clinical history, typical clinical presentation, the lesion itself, plus extraction of the larvae from the site.

Treatment of cutaneous myiasis involves the application of petroleum jelly or other fat-derived substances to asphyxiate the larvae. Sometime, surgical exploration and removal of the larvae at the site is undertaken, especially if more than one larvae is expelled from the site.[9] A secondary bacterial infection can occur due to infection of the wound or to the incomplete removal of the larvae during extraction. In this event, patients will need a course of antibiotics.

Our patient had 5 larvae extracted from the site, which resulted in surgical exploration the day after petroleum jelly was applied. However, no additional larvae were found at the site. This is the first case of furuncular myiasis in a child who acquired it outside Asir and Baha regions. This indicates expanded epidemiology of this parasite into an area which has similar weather conditions as the Southern region. Furuncular myiasis has been previously reported in adults in the Makkah region.[10] An epidemiological review and clinician awareness is necessary to include furuncular myiasis in the differential diagnosis of a furuncular skin lesion.
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Conflicts of interest
There are no conflicts of interest.

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