Cutaneous Myiasis in Saudi Infant: A Rare Case Report

Alotaibi S[1§], Al shahrani D[2], Omar Alzomor[3]

[1]Senior Demonstrator, Department of Emmergency Medicine, College of medicine, King Fahad University Hospital and Dammam University, Al-Khobar, Saudi Arabia

[2,3] Consultant, Section of Pediatric Infectious Diseases, Children's Specialized Hospital, King Fahad Medical City, Riyadh, Saudi Arabia.

Abstract—*Myiasis is a rare disease by developing larvae (Maggots) of a variety of fly species within the arthropod order Diptera. Recognition and Management of Myiasis are demanding. Herein we present a 7-months-old Saudi girl presented with multiple skin lesions over her body, clinical diagnosis of skin abscess was made initially. Incision revealed multiple maggots coming from the incision wounds, the larva was extracted and the clean dressing was done. Patient showing complete recovered skin infection. Cutaneous Myiasis is a devastating presentation of a variety of fly species that should be considered in the appropriate clinical setting and recent traveling to the suspicious area*.

Keywords— Cutaneous Myiasis, Dermatobiahominis.

I. INTRODUCTION

Cutaneous Myiasis is a rare disease caused by developing larvae (Maggots) of a variety of fly species within the arthropod order Diptera. This may occur in any person who exposed to a blood-sucking arthropod, usually a mosquito. Often, a history of traveling to a tropical country or existence of a previous wound is noted. In one study, the average time from exposure to diagnosis was 1.5 months.[1]

Patients complain of boil-like lesions usually on exposed areas of the body, like the scalp, face, forearms, and legs. Myiasis is a worldwide infestation with seasonal variation, the prevalence of which is related to the latitude and life cycle of the various species of flies. Its incidence is higher in the tropics and subtropics of Africa and the Americas. The flies responsible prefer a warm and humid environment and so are restricted to the summer months in the temperate zones, while living year-round in the tropics. In Saudi Arabia no actual number of cases affected by myiasis, it could be due to under diagnosis or failure to report the case to the Health authority.

Herein, we report a case of Cutaneous Myiasis in Saudi infant that was confirmed by larva extraction. The aim of this report is to discuss the Cutaneous Myiasis as a unusual infectious disease among the Saudi population.

II. METHODOLOGY

A case of Cutaneous Myiasis was came in pediatric outdoor, was confirm by larva extraction. As it is a rare occurrence so case was interrogated and investigated thoroughly and case report was made to report.

III. CASE REPORT

A 7-month-old girl was presented with multiple skin lesions over her body. She was recently traveling to a village at (Jizan) in the south area of Saudi Arabia for one month and just returned back 3 days before presentation. The mother noticed that the child have multiple skin lesion started as small red papules, gradually increase in size, with puncture opening near the center without visible discharge. (Figure 1)

Figure 1
Primary skin lesion of "Cutaneous Myiasis" on the right hand of 7 months old infant

Figure 2
Extracted Maggot from one of the skin lesion of "Cutaneousmyiasis"

Figure 3
Demonstration of back skin lesions of "Cutaneous Myiasis" after incision

Figure 4
Cutaneous myiasis (same lesions) 2 weeks after larva extraction

It was distributed at many sites of body parts including the neck, axilla, and hands associated with itchiness and irritability. There is no history of fever and another systemic review was unremarkable. Family history revealed same lesions on the mother with the sensation of something moving beneath the skin, other family members are normal. Socially no contact with a sick patient and no clear history of mosquitoes bite or contact with animals.

At one clinic diagnosed initially as multiple abscesses, incision and drainage were done revealed movable larva (Figure 2) and recommended them to seek a higher center for evaluation and further management. When we saw the patient she was looks well, a febrile. Skin examination showing that multiple red raised boil like lesion with central punctum distribution involved the back of the neck, back of her body (Figure 3), left axillary and right hand. Another systemic examination was unremarkable. A diagnosis of "Cutaneous Myiasis" was made; CBC (complete blood count) was done revealed normal

result. Incision of remaining intact lesions with daily antiseptic dressing and Ivermectin 3mg orally as single dose was prescribed for the patient. The mother was referred to the adult infectious disease service. Up on follow up two weeks later, Patient was seen as outpatient in pediatric infectious disease clinic where marked improvement of skin lesions (Figure 4), with post inflammatory hyper pigmentation is noted and the infant has normal general examination.

IV. DISCUSSION

In present study, a case of Cutaneous Myiasis was described, which is a rare presentation, involving the multiple skin area caused by a maggot of one fly species in a seven month Saudi girl.

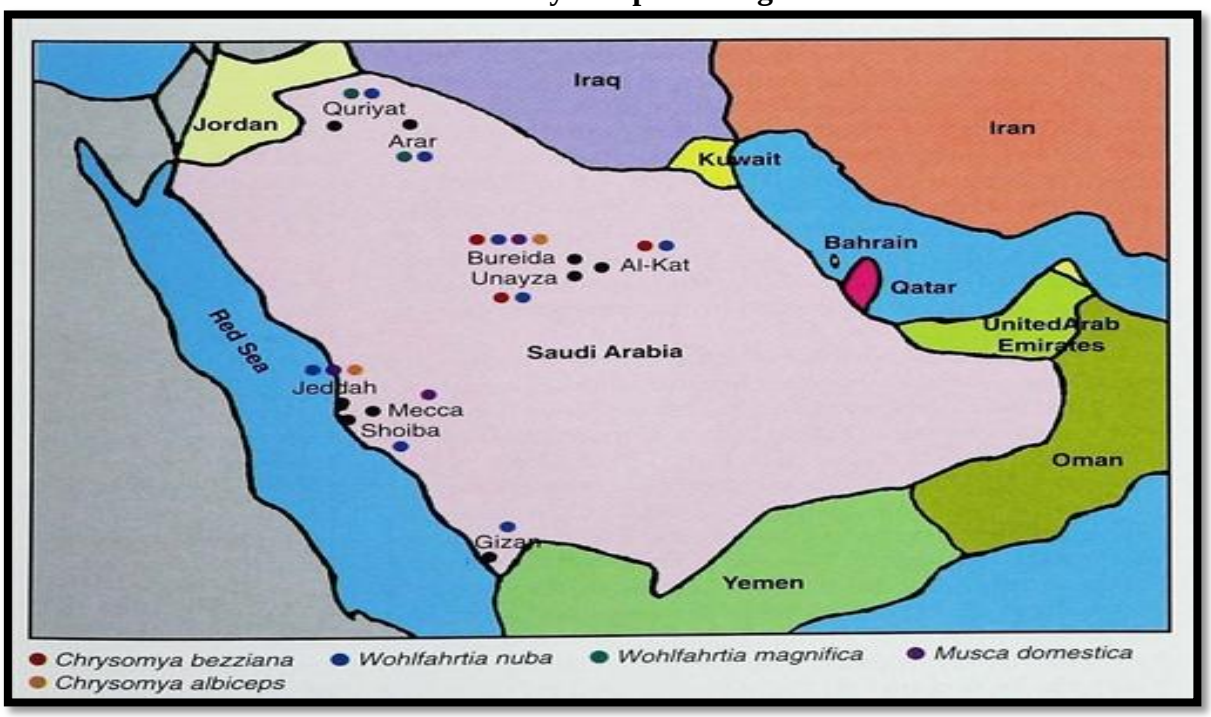
Myiasis is an infestation of live vertebrates (humans and/or animals) with dipterous larvae which feed on the host tissue[2].In cutaneous myiasis, the two main clinical types are wound myiasis and furuncularmyiasis.[2] Other forms include creeping/migratory myiasis and cavitarymyiasis of body organs.[3]

Myiasis is a worldwide infestation with seasonal variation, the prevalence of which is related to the latitude and life cycle of the various species of flies. Its incidence is higher in the tropics and subtropics of Africa and the Americas. The flies responsible prefer a warm and humid environment and so are restricted to the summer months in the temperate zones, while living year-round in the tropics.[1] *Dermatobiahominis*, also known as human or tropical botfly, is endemic to tropical Mexico, South America, Central America, and Trinidad,[4] while *Cordylobiaanthropophaga (tumbu fly)* is endemic to sub-Saharan Africa.

In Saudi Arabia no actual number of cases affected by myiasis it could be due to under diagnosis or failure to report the case to the authority.In 2003 the Saudi Ministry of Health reported to the public that was many cases of Cutaneous Myiasis Caused by blue flies contaminating water supplies was discovered in Jizan & Hail cities and were successfully contained.[5] 46 cases of myiasis were registered during 1980 to 1995 in Saudi Arabia, including ophthalmomyiasis due to sheep bot-fly (oestrus ovis),autochthonous cutaneous myiasis caused by Dermatobiahominis and Cutaneous myiasis caused by tumbu fly (Cordylobia anthropophagi – notably in Asir).[6]

In our reported case there is no history of travel outside Saudi Arabia, but family was traveled to the south area of the country mainly to one village in Jizan province. The Southern parts of the Arabian Peninsula are considered, by some authors, a part of the Afro-tropical zoogeographical belt.[7] Jizan lies in the southwest corner of Saudi Arabiaon the tropical Red Sea coast, it covers an area of 40,000 square kilometers, including some 5,000 villages and cities,& had mountains, forest. The weather is climate with an average annual temperature over 30 °C ,The weather varies from extremely hot in its long summertime to hot in its short winters& mostly humid, which makes it a good environment for the flies. Myiasis could be an endemic disease in Jizan region but may under-reported. As mentioned the Southern parts of Saudi Arabia are considered part of the Afro-tropical zoogeographical belt where C. anthropophaga is dominant.

Figure 5
Skitch map of Saudi Arabia showing the geographical distribution of the different species of Cutaneous Myiasis producing flies.[8]



A case, with cutaneous myiasis confirmed to caused by Cordylobia anthropophagi was reported in Al Baha in Asir province.[7] Dermatobiahominisinfestations can also occur in cattle. In the two cases reported in one paper from Taif in Saudi Arabia, there was no history of travel and the source of infection appears to be domestic cattle. The fact that most of these animals are bred locally may indicate that these infestations may be endemic in this region but have not been diagnosed or reported.[9] Omar and Abdalla[10] reported seven cases of cutaneousmyiasis due to the tumbu fly (*Cordylobiaanthropophaga*) in the Asir region. Sundharam et al[11] later documented a further 31 cases of myiasis also caused by *C. anthropophaga*in the Asir region. These flies have flourished due to the damp climate in Asir and the fact that the fly can lay its eggs in soil and parasitize many animals would indicate that these types of infestations may become more apparent in future.[9]

Myiasis is a self-limited infestation with minimal morbidity in the vast majority of cases.[12] Complications include infections such as cellulitis.[4] Management is simple involves removal of the maggot by excision orsqueezing the wound or by gentle use of forceps, irrigation & petroleum gauze packing , with oral ivermectin or topical ivermectin. Once the larva has emerged or has been removed, the lesions rapidly resolve.[3] However, larvae such as *C hominivorax* (cause of wound myiasis) can infest around orifices of the head and may burrow into brain tissue. Individuals traveling to rural endemic areas should be covered at all times with long-sleeved shirts, pants, and hats. At night, sleeping on raised beds, in screened rooms, or under a mosquito net is appropriate. Insect repellents are also recommended.[4]

The present numbers of myiasis cases do not deserve alarm as a serious health crisis but this trend should be closely monitored because *D.hominis*and *C. anthropophaga*appear to have an endemic origin in various parts of Saudi Arabia.[9]

V. CONCLUSION

Because Myiasis is a rare infectious disease in Arabian peninsula, , a high index of suspicion should be considered in cases with the history of traveling to the possible tropical endemic area. Awareness of the diagnosis and management of Myiasis should extend to the healthcare providers. Infection control instructions supposed to be offered to the travelers or people who live in expected or confirmed tropical endemic area.

CONFLICT

None declared till date.

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