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## RESEARCH ARTICLE

### BLACK FLIES INFESTATION OF HUMANS WITH ABSCESS FORMATION ON THE CHEEK FROM OMAN. A RARE CASE REPORT

1,\*Scott Arockia Singh and 2Mosaed Abdul Aziz Mohamed

<sup>1</sup>Department of Surgery, Badr al Samaa Hospitals, Salalah, Oman

<sup>2</sup>Department of Internal Medicine, Badr al Samaa Hospitals, Salalah, Oman

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#### ABSTRACT

We report here a case of black fly bite on the face of a middle-aged Arab lady. She presented with a fairly large-sized, painful swelling of size 7\*5 cm on her left cheek of 3 days duration. She visited a picnic spot on the mountains of Dhofar two days prior to the hospital visit and developed a large abscess on her cheek. Incision and drainage done under local anaesthesia. Black flies infection was rampant in the monsoon season, on the mountains of Dhofar region in Oman. These flies are hematophagous flies and affects cattle, wild animals, birds and humans. Death from mass attack reported in cattle, due to release of toxin from its saliva. It bites humans and causes significant lesions like abscesses on the face and the public be informed about the precautionary measures. Dangerous black fly infection in humans is not ever reported from Oman in the medical literature. We would like to draw attention of the practicing doctors and public about this infectious disease.

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#### INTRODUCTION

Dhofar region of Oman experiences the monsoon season between the month of July and September annually Monsoon season in Salalah is locally known as Khareef season. Black flies are common in this season on the mountains of Dhofar landscape. Black flies are colloquially called as Khareef flies, locally pronounced as "Ainout" by salalahites. Ainout is a jabeli language and is not an Arabic word. (Local communication with Salalahites). Ali Tagani termed these flies as hematophagous flies in his article<sup>1</sup> (Ali Tigani ElMahim, 2011). (Hematophagus=Blood sucking) Hematophagus minuta Bezzi, Muscrastris stein and forcipomyia white combeboorman are the three different hematophagus flies affects the ecology of Dhofar landscape (Ali Tigani ElMahim, 2011). Largely, Ali studied the effects of Khareef flies on the cattle and reported the damage to the livestock in the Dhofar region during Khareef season.

**Case report:** Iraqi lady of 51-year old, who lives in Salalah, Dhofar region presented in our outpatient clinic with severe pain and swelling on her left cheek of 3 days duration in the month of August as shown (Figure 1).

Two days prior to the hospital visit, she had visited tourist areas in and around Salalah, and bitten by the black flies. She is a known case of diabetes and on regular antidiabetic medicines. On examination, noted a fairly large swelling on the left side of her cheek of size 7\*5 cm with redness, tenderness and periorbital edema of the lower eyelid. Blood counts raised and ultrasound showed large abscess collection underneath the skin. She underwent incision and drainage under local anesthesia. Thick pus, yellowish colored; creamy in nature was let out as shown (Figure 2). Antibiotics and analgesics prescribed. Blood sugar maintained within normal levels with antidiabetic drugs. She attended regularly our clinic for wound care. Wound completely healed in 1 month time with no scar.

**Black Fly:** These blood sucking flies are terrestrial and appear in the rainy season of Dhofar region of Salalah. Hematophagus minuta Bezzi, Muscrastris stein and forcipomyia white combeboorman are the three different hematophagus flies. Among the three, forcipomyia is the one sucks blood voraciously and causes extensive allergic reactions in humans<sup>1</sup> (Ali Tigani ElMahi, 2011). Black flies belong to the family Simuliidae, and they feed on livestock, birds, wildlife and people. These flies distributed throughout the world and measures 1-6 mm in length. Female fly sucks blood and life span is 3 weeks to 3 months. It has tiny serrated mouth parts and bites are always painful.

\*Corresponding author: Scott Arockia Singh

Department of Surgery, Badr al Samaa hospitals, Salalah, Oman.



**Figure 1. Preoperative picture**



**Figure 2. Peroperative picture**

Toxin causes increased capillary permeability, permits the fluid to pool in the cavities and body spaces and ensues circulatory collapse<sup>3</sup>.

## DISCUSSION

Generally in our outpatient clinics, we witness more patients of black fly bites during the Khareef season in Salalah. Majority of the inflicted are first time visitors to Salalah who are unaware of these flies. These flies bite the neck, face, hands and legs. It causes minor allergic reactions of the skin, like papule, nodule or plaque like lesion to extensive eczematous dermatitis type lesions with anaphylactic reactions.

single short of injection corticosteroid along with antihistamine settle the symptoms in most of the patients. Our case is unique as it has affected the face, a large lesion with abscess formation. The abscess drained promptly and wound healed completely with no scar. Ali Tigani cautioned in his article that Hematophagous fly can affect public health, economy and tourism sector of Dhofar if it is not handled accordingly (Mellor, Philip, 1978). Philip S Mellor reported that these Khareef (black flies) flies named as *Lyperosia minuta*, and *Musca crassirostris* (<http://www.msdevetmanual.com/integumentary-system/flies/black-flies> Black flies: Veterinary; Integumentary System - Merck MSD Veterinary Manual)<sup>2</sup>. Both the above authors had studied the effect of these flies on the cattle during the Khareef season in Salalah. These flies are more rampant in places like Zeek, AynGharziz, Sahalnout and Darbat areas. They prefer to stay more in the low wind, cooler and water-logged areas of the mountain.

## Conclusion

We strongly suggest that these Khareef flies are really a menace to the common public, tourists of Dhofar region during the Khareef season period. We need to educate the public and create awareness. They have to wear protective clothes like full sleeves which cover the hands and legs, hood caps and encouraged to apply repellent creams prior visit to the tourist site. We also stress that in liaison with entomologist, these Khareef flies be controlled in the future.

**Conflicts of interests:** The authors declare that they have no conflict of interest.

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