

Orofacial Myiasis - A Case Report

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Abstract: Myiasis is an opportunistic infestation rarely affecting the oro - facial region. Case Report: This is the report of a unique case of extra - oral facial myiasis in a 53 years old farmer that reported to the emergency unit of KLE's Prabhakar Kore Hospital, Belgaum, Karnataka. The case was successfully managed by means of surgical debridement and pharmacotherapy. Complete healing of the wound was achieved within four months. Myiasis or infestation of living tissues by Diptera larvae is predominantly observed in the tropical, subtropical and warm temperate areas of Africa, America & Asia. 'Turpentine oil' plays an imperative role in its management and is the traditional treatment modality. Conclusion: Though rare in the urban population, myiasis still prevails in the rural areas of the country and demands fast diagnosis and modern intervention modalities.

Keywords: Myiasis, Maggot infestation, Orofacial Myiasis

1. Introduction

The term 'Myiasis' was introduced by William Hope in 1840 (1). It is the infestation of body tissues of animals by the larvae commonly known as maggots, of two winged flies, the Diptera.

Its prevalence is guided by the life cycle of flies which in turn is related to the region, climatic conditions, latitude, environmental hygiene etc (1). It is most frequently found in the tropical & sub - tropical countries and warm temperate countries of Africa, America and Asia due to the favorable climatic conditions for the persistence of flies. The calliphorid fly *Chrysomya bezziana* is the commonest etiologic agent in India. (2) The larvae invade the human or animal tissues, complete their life cycle fully or partly and feed onto the living or dead tissues. Cutaneous involvement is the most common type of myiasis. (3) Nose, eyes, skin wounds, sinuses, lungs, ears, gut, gall bladder, vagina, nasal cavities are the commonly affected sites. As the oral cavity is rarely exposed to the external environment myiasis affecting the oro - dental complex is very rare. (4)

There are a number of risk factors associated with it like poor personal hygiene, open wounds, non - healing extraction sockets, ulcer like lesions, carcinoma etc. Myiasis is most likely to occur in travelers, alcoholics, mentally handicapped, cerebral palsied, bed ridden or recumbent patients and economically backward class of population. (5).

We describe a case of oro - cutaneous myiasis in a healthy individual managed successfully by surgical debridement and pharmacotherapy.

2. Case Report

A 53 years old healthy male reported to the emergency unit of our institute with the chief complaint of discomfort on the left lower side of the face since 2 - 3 days. The patient also complained of itching and foul odour. The patient was a farmer by occupation. All the vital parameters including the blood glucose level were within normal limits when checked in the Emergency unit. General condition of the patient was fair and the patient was conscious and oriented. Clinical examination revealed a 3 x 4 cm² ulcer - like lesion on the left side of the face adjacent to the angle of the mouth. Detailed examination revealed dark tiny mobile structures in

the depth of the wound that were presumed to be maggots. Intra - oral examination revealed a fistulous tract in the region of the lower left buccal vestibule corresponding to the premolars and communicating with the extra - oral wound. Based on the clinical findings the condition was diagnosed as 'Oro - facial Cutaneous Myiasis'.

The management consisted of surgical debridement and pharmacotherapy. As there was an intra - oral fistulous tract communicating with the extra - oral wound, to avoid ingestion or aspiration of the larvae, surgical debridement was done under general anaesthesia. A gauze piece soaked with turpentine oil was placed in the extra - oral wound for a period of 5 - 10 minutes. On removal of the gauze piece the larvae surfaced to the top and were manually plucked out using tweezers. The wound was then debrided and irrigated using hydrogen peroxide and povidone iodine solution followed by placement of turpentine oil dressing. Pharmacotherapy consisted of intravenous administration of ivermectin 200 mcg/ kg per day along with broad spectrum antibiotics. The turpentine dressings were done thrice a day for a period of 5 days till all the living and dead larvae were retrieved from the wound. Oral hygiene maintenance was done thoroughly using 2 % chlorhexidine mouthwash thrice a day. A total of more than 100 larvae were retrieved at the end of 5 days after which the wound was dressed with antiseptic ointment. The patient was called for regular follow - up and monitoring. Complete healing of the wound was observed within three months.

3. Discussion

Orofacial myiasis is a rare opportunistic infestation of human and vertebrate animals caused by Dipteran flies. The Order Diptera consists of a variety of fly species. However *Chrysomya bezziana* is mainly responsible for orofacial myiasis in the Asian and South East Asian continents. (6) The adult fly is typically metallic blue or green in colour. Female flies lay around 150 - 200 eggs at a time in wounds and mucous membranes of live mammals. Superficial, old wounds are preferred. The larvae feed on and burrow into the living tissue in a screw - like fashion. After 5 - 7 days they develop and fall onto the ground to pupate. *Chrysomya bezziana* has the ability to cause tissue invasion without any pre - existing necrosis. (6)

This condition is most likely to occur in people from a low socio - economic background, with poor sense of personal hygiene and mentally challenged individuals. Also, habits of the population, such as sitting or lying on the ground and some religious rites, and climatic conditions influence the occurrence of myiasis (7). In our case though the patient was physically healthy, he belonged to a very low socio - economic group. Being a farmer, his daily routine consisted of hard physical labour in the fields and soil. Thus there is a high possibility of him not having noticed a wound in the oro - facial region and having missed it which later got infested by maggots. Having just ignored the initial signs of disease the patient later reported to the emergency unit with a large wound infested with maggots.

The management consisted of surgical debridement and 'Occlusion or Suffocation therapy'. It consists of blocking the larva's respiratory sinuses in the central punctum, forcing this aerobic organism to the surface in search of air and allowing removal with the aid of forceps or tweezers. Traditionally Bacon was used as an occlusive dressing. Other alternative dressings can be of petroleum jelly, heavy oil, liquid paraffin, beeswax, adhesive tape, butter and mineral oil. (8) An alternative to both surgical and suffocation techniques is the injection of lidocaine at the base of the tissue cavity which the larva inhabits. The local swelling forces the larva to the surface, where it is easily grasped and removed. (9) Medical management may consist of intravenous ivermectin or nitrofurazone both of which are antiparasitic agents. (10)

In our case a combination of surgical and pharmaco - therapeutic management was used. As prevention is said to be better than cure, the prime focus of health workers should be to prevent the occurrence of such infestations. In a country like India where most of the population belongs to the agricultural community there is a serious need for public health awareness and education at the grass - root level. Apart from making the health facilities available to the rural areas, there is a necessity to make people aware of the importance of cleanliness and good personal hygiene. Prevention of such diseases consists of good oral hygiene, taking care of wounds and maintaining a good and clean environment, proper disposal of waste products both human and house hold. This will help to avoid potential environment for the flies to habitat. Along with this, measures should be taken to kill the adult flies like using fly

traps, using electrocuting grid, use of pesticide sprays etc. (10)

Regular general health and dental check - ups should be done especially of specially aided persons by the care givers.

4. Conclusion

Orofacial myiasis though a rare entity, makes its presence felt from time to time. Hence its prevention should be the main aim of health workers around the world. An alert approach, early diagnosis and use of the right management strategy is the key to treat it successfully.

Conflicts of Interest: None

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Figure 1 & 2: Extra - Oral wound with live maggots communicating intraorally



Figure 3: Maggots retrieved from wound after surgical debridement



Figure 4: Wound Status on 7th day after surgical debridement



Figure 5: Clinical picture after 3 months