

ORAL MYIASIS - A CASE REPORT

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ABSTRACT

Myiasis is the invasion of the tissues and organs of human beings by fly larvae. This phenomenon is well documented in the skin, especially among animals and people in poorly developed and developing countries. When the tissues of oral cavity are invaded by the parasitic larvae of flies, the condition is called as oral Myiasis. It is a rare condition caused by several species of dipteran fly larvae and may be secondary to serious medical and dental conditions. We here by report a rare case of oral myiasis involving the palate in a 43yrs old female non diabetic patient with mouth breathing and poorly debilitated with compromised periodontal condition and discussing the management of the same.

KEY WORDS : Myiasis, Maggots, Musca domestica, Diptera

INTRODUCTION

Tissues of the oral cavity are invaded by parasitic larvae of house flies are called as oral Myiasis¹. The term Myiasis was coined by HOPE in 1840² and it is derived from Greek word MYIA meaning fly. It was first described by LAURANCE in 1909³. It was defined by Zumpt as the infestation of live human and vertebrate animals with dipterous larvae, which feed on living or dead host tissue, liquid body substance or ingested food for certain period of time^{1,4,5}.

Based on the sites involved in the body they were described as cutaneous, nasopharyngeal, aural, ocular, intestinal and urogenital Myiasis⁶. It can be caused by three main families of flies.

1. Calliphoridae (timbu flies , screw worms , green bottles)
2. Sarcophagidae (flesh fly)
3. Oestridae (warble flies and bottle fly)

Larvae of common house fly *Musca domestica* have been identified in neglected wounds. The common house fly is found world wide and its life cycle is similar to Calliphoridae species⁷. The infestation of already existing wounds is referred to as traumatic Myiasis.

There are two forms depending upon the condition of the involved tissue.

1. Obligatory, where maggots require living tissues for larvae development⁸.
2. Facultative, where flies use necrotic wounds as a site in which they lay eggs and incubate their larvae⁷.

Clinically it can be classified as primary and secondary⁹.

Primary myiasis is caused by biphagous larvae (feed on living tissue) which are common in cattle, rare in human beings.

Secondary myiasis is caused by necrobiphagous flies (feed on dead tissue) which are more common in human beings with neglected oral and body care.

The flies lay over 500 eggs and hatch in less than a week and their life cycle is completed within two weeks¹⁰. The larvae obtain their nutrition from their surrounding tissues and burrow deeper into the soft tissues by making tunnels separating the mucoperiosteum and gingiva from the underlying bone^{11,14}.

Some cases described in the literature were secondary to medical or anatomical conditions such as cancrum oris (NOMA)¹², cerebral palsy¹³, epilepsy, mouth breathing , fracture , anterior open bite and incompetent lips.

Case Report:

A 43 yrs old female patient came with a complaint of massive, painful, swollen and averted upper lip with mobile upper anterior teeth with detached mucoperiosteum from the underlying pre maxillary segment since one week (**Fig.1 and Fig.2**). The swelling started slowly and attained the present size. She was associated with fever since two days and also complains of discomfort¹¹ and unable to eat since two days.

Dwelling upon the history, patient was from a low socioeconomic back ground, residing in a rural area. She had a history of mouth breathing with poor generalised periodontal status. She had a habit of sleeping in cattle house.

She developed swelling extending from infra orbital region bilaterally to the entire upper lip. Skin over the swelling appeared stretched, erythematous and localised rise in temperature.

Intra oral examination revealed poor oral hygiene with severe halitosis. Swelling may be seen involving the lips, anterior portion of hard palate². Palatal flap in the premaxillary region was necrotised, detached from the underlying bone^{11,14} and it acted as a nidus for the larvae to harbour themselves. Maggots were seen between the palatal bone and flap. Cotton soaked in turpentine oil was placed in the wound area during which maggots were coming out raising a strong suspicion of involvement of maxillary sinus and the nasal cavity. Based on the clinical findings and the presence of maggots the diagnosis was made as MYIASIS.

CT scan (**Fig. 3 and Fig. 4**) was taken to rule out the possibility of extent of these maggots into the maxillary sinus and nasal cavity. Blood investigations revealed blood sugar levels are under control and HIV and HBs tests were found negative with mild anaemic condition. (Hb% 8gm/100ml)

Patient was advised for systemic review by a physician. Chest x-ray and ECG were taken at regular intervals and was found to be normal. The Myiasis was treated with Taxim 1 gm, Metranidazole 100 ml IV injections along with IM Voveran injections for seven days.

The case posted for surgery under general anaesthesia. After taking consent all the teeth were

extracted due to poor oral hygiene and debilitating periodontal condition. Curettage was carried out completely in the pre maxillary segment including bone and soft tissue after removing the larvae from the wound. Around 20 – 22 maggots (**Fig.5**) were removed with blunt tweezers. The larvae preserved in 40% formaldehyde and were identified as larvae of *Musca domestica*.

Post operative healing was uneventful in the wound area. A week later the patient was discharged and was asked to report back after a period of three months to evaluate the healing status and to fabricate complete denture, but unfortunately failed to do so.



Fig.3.Extra oral CT scan



Fig.4.Intra oral CT scan

DISCUSSION:

Myiasis is an uncommon disease in humans and take many forms including infection of skin, gut, nasal cavities and eyes¹⁵ occasionally the oral cavity. It occurs most commonly in rural than urban

areas⁵. Predisposing factors were secondary to medical conditions like diabetes mellitus, psychiatric illness, leprosy, mental retardation with open neglected wounds and also in patients with mouth breathing habit. Other risk factors may be poor oral hygiene, facial trauma and suppurative lesions¹⁶. It has also been described after teeth extraction. In the present case, patient was residing in rural area with low socioeconomic back ground, having poor oral hygiene status with mouth breathing habit, but not a diabetic.

The simplest option for treating Myiasis is the mechanical removal of larvae with tweezers, usually under local anesthesia. When tissue destruction is present surgical exploration should be carried out complemented by treating the defect with ether or turpentine oil capable of irritating the parasites and forcing them out of hiding² but the use of systemic Ivermectin can give favourable results in most of the cases^{17,18}. It is a semisynthetic agent of the macrolides family that is derived from a group of natural substances- avermectin- which is obtained from actinomycetes. It is given orally in just one dose of 150-200mg/kg body weight. However in the present case mechanical removal of larvae along with surgical exploration to remove both necrotic tissue and bone was considered appropriate for the patient.

CONCLUSION

Though oral myiasis is a rare condition, the clinician should also consider the socio economic condition along with poor oral hygiene before treating the patients in the dental office.



Fig.5 Collected larvae from the lesion



Fig.6. Post Operative- extraoral frontal view



Fig.7. Post operative Intraoral view

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