Oral Myiasis

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Abstract

Oral Myiasis is a rare disease primarily caused by the invasion of tissue by larvae of certain dipteran flies. Common predisposing factors are poor oral hygiene, halitosis, trauma, physically and mentally challenged conditions. Oral myiasis can lead to rapid tissue destruction and disfigurement and requires immediate treatment. Treatment consists of removal of maggots from the oral cavity using blunt tweezer or hemostat after application of chemical agents. Good sanitation, personal and environmental hygiene and cleanliness are the best methods to prevent oral myiasis. This case report describes the presentation of oral myiasis caused by musca nebulo (common house fly) in a 65 year old female patient, with recently operated maxillofacial trauma. The patient was treated by manual removal larvae by topical application of turpentine oil, followed by surgical debridement of the wound and removal of hardwares.

Keywords: Oral Myiasis, Maxillofacial Trauma, Hardwares, Chemical Agents

INTRODUCTION

Myiasis is derived from a Latin word “Muia,” which means fly and “iasis,” which means disease. The term was coined by Hope in 1840 and defined by Zumpt. It is a pathological condition in which there is an infestation of living mammals with the dipterous larvae, which, at least for a certain period feed on the host’s dead or living tissue and develop as parasites1. The term myiasis refers to infestation of living tissues of animals or humans by diptera larvae.

Human myiasis is often seen in the tropics and subtropics but is extremely rare in the Northern Hemisphere2.Myiasis is a parasitic infestation of live human or vertebrate animal tissues by dipterous larvae of nonbiting flies, which feed on host tissues or fluids. The most common location for infestation in the head and neck is the eye, followed by the nose and the ears because of access, size of the orifice, and decreased sensitivity of the mucosa. The parasites are mobile; therefore, symptoms appear acutely with a foreign body sensation and itching3.

More than 80 different species have been reported to cause this condition in human beings by several authors in different journals.Oral myasis was first described by Laurence in 1909.It should be considered rare owing to the fact that oral cavity rarely provides a favorable site for infestation and harboring of larvae.

The species of flies that cause myiasis are Cochiliomyia hominivorax, known as the screw worm fly, Dermatobia hominis or human botfly, Sacrophagidae species, Alouttamyia baeri and Anastrepha species family. Myiasis can be classified clinically as primary (larvae feed on the living tissue) and secondary (larvae feed on dead tissue). Depending on the condition of the involved tissue it is classified into accidental myiasis (larvae ingested along with food), semi specific myiasis (larvae laid on necrotic tissue in wounds) and obligatory myiasis (larvae affecting undamaged skin).

Further classification can be based on the site as cutaneous, external orifice, internal organs and generalized. The most common anatomic sites for myiasis are the nose, eye, lung, ear, anus, vagina and more rarely, the mouth. Incidence of oral myiasis as compared to that of cutaneous myiasis is less as the oral tissues are not permanently exposed to the external environment4.

CASE REPORT

A 65 year old female patient reported to the Department of Oral and Maxillofacial Surgery, NIMS Dental college and Hospital, with a chief complaint of swelling and pain over right side of the face since 1 month. The patient was apparently normal before, after which she developed pain along with the swelling and Itching in the same region. The pain and swelling was gradual in onset causing difficulty in mastication. Past dental and family history was non-contributory.Patient gives history of tuberculosis before 10 years and completed DOTS therapy for the same. Patient gives history of trauma before 2 years and operated for the same.

On extra oral examination, a mild labial fullness was noted. An ill-defined diffuse swelling was noted on the middle third of the right side of face extending superiorly to infraorbital margin,inferiorly an imaginary line from alae of the nose to anterior border of masseter,medially to lateral wall of nose and laterally to anterior border of masseter muscle(Figure 1). The swelling was soft in consistency, non-tender on palpation with local rise in temperature associated with itching. No submandibular ,submental or parotid lymph nodes were palpable.

On intra oral examination, patient had a laceration over left buccal vestibule where hardware has been exposed. In addition, patient had a very poor oral hygiene. Further, there were multiple maggots crawling out from the lacerated buccal mucosal wound. Orthopantamogram and Computed tomography scan and MRI (Figure 2) showed Operated case of Mid face fracture with fixation at Frontonasal suture, Right and left zygomatic buttress, and midline of maxilla.After obtaining

a detailed case history, clinical, radiographic and hematological investigations, a diagnosis of Operated case of maxillofacial trauma and oral myiasis was made. The patient was planned for Exploration and excavation of oral myiasis under GA.

Initially, multiple sittings for Exploration of myiasis were performed under Local anesthesia. Exposed Hardwares were also removed. Then Cotton bud impregnated with turpentine oil was applied to the lacerated mucosa for a minimum of 15 20 mins. After applying turpentine oil patient was asked to breathe in and blow out through nose, so that the vapour enters maxillary sinus and the cause irritation to maggots. A few minutes after applying turpentine oil patient started feeling oral myiasis over maxillary sinus and nasolacrimal area.After these maggots were coming out through nose and perforation over right side of the nose and manually removed with the help of blunt tweezer and then sent for entomological examinations(Figure 3).After that patient was put under Tablet Ivermectin 12 mg as loading dose for 3 days along with Intravenous antibiotics. These procedures were repeated for 4 – 5 sittings under Local anesthesia.

Surgical removal of necrotic tissue present(Figure 4) under General anesthesia with oral intubation was planned along with the help of Nasal rhinoscope and Bronchoscope and irrigating the area with saline, H2O2 and then with betadine followed by metronidazole(Figure 5).

The patient was put on Tablet Ivermectin 12mg OD for 7 days along with antibiotic cover of Injection Monocef 1g and Injection Metro 400mg IV for 5 days. The patient was advised to maintain proper oral hygiene and rinse the wound with betadine mouthwash, 3 to 4 times daily. Patient was discharged on 5thday after informing about wound care(Figure 6). Follow up appointment was given. Sutures were removed on the 7th day as wound was completely healed and patient was recalled periodically(Figure 7).

DISCUSSION

Myiasis is a common problem in the tropics but occurs rarely in temperate climates5. Most cases are found in underdeveloped countries or in patients with poor hygiene and unsanitary conditions, those who are predisposed to chronic infection or malignancy, and those with poor access to healthcare5. Myiasis is a rare condition in human beings although frequently reported in vertebrate animals, main parasites being flies of order of diptera (maggots), which feed on the host's dead or living tissue. This parasitic infestation commonly seen in mouth breathers, alcoholism, senility, in oral and maxillofacial traumas or in old age groups especially mentally handicapped persons.

Low socio economic status, immunocompromised state, debilitated and unhygienic living conditions may also act as predisposing factors. Diagnosis is usually made by proper clinical history, and investigations. Traditional management of oral myiasis is removal of maggots using hemostats or blunt tweezer. Rupture of larvae must be avoided. When there is large amount of larvae with tissue destruction is present, then the area will be treated with local applications of certain solvents like turpentine oil, mineral oil, ether, chloroform, ethyl chloride, mercuric chloride, creosote, saline, phenol, calomel, olive oil, iodoform to remove the maggots completely. Male predilection of occurrence has been noted in most literatures because of their more outdoor activities and neglecting the oral hygiene when compared to the female counterpart6.

Our experience indicates that conservative, nonsurgical management approach is both safe and effective.

CONCLUSION

Oral Myiasis is a rare disease primarily caused by the invasion of tissue by larvae of certain dipteran flies. Oral Myiasis leads to rapid tissue destruction. Our experience indicates that conservative, nonsurgical management approach is both safe and effective.

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FIGURES

Figure 1: Preoperative photograph

Figure 2 : MRI

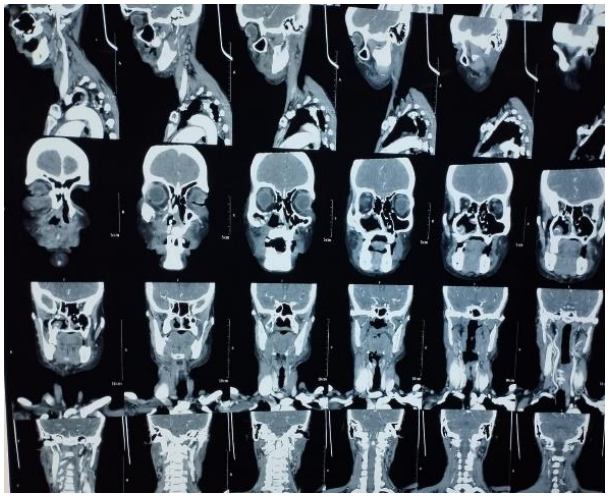

Figure 3: Maggots extracted from Facial region

Figure 4: Necrotic tissue removed

Figure 5 : Bronchoscopy

Figure 6 : Post operative photograph

Figure 7 : After 10 days