

ORAL MYIASIS IN AN ALCOHOLIC PATIENT FOLLOWING MAXILLOFACIAL TRAUMA – A CASE REPORT

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ABSTRACT

Myiasis is a medico-pathological term used to describe the infestation of dead or living tissue of vertebrates by larvae/maggots of certain dipteran flies. Human oral myiasis is rare and unique as the oral cavity is protected from the external environment. Here, we discuss a case of oral myiasis in the maxillary anterior region reported in our department.

KEY WORDS

Myiasis, Oral Myiasis, Larvae / Maggots

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INTRODUCTION

The term 'Myiasis' was coined by F.W. Hope in 1840, but it was first described by Laurance in 1909^[1]. Myiasis is a pathological condition characterized by infestation of living vertebrate animals with dipterous larvae that feed on the host dead or living tissues, liquid body substances or ingested food as parasites^[2,3,4]. Human or animal tissue acts as an intermediate host for the larvae in its life cycle. It is classified by primary/obligatory and secondary/facultative and incidental/accidental one^[1]. Most commonly affected parts of human body are cutaneous, subcutaneous and mucosal (ophthalmic, urogenital, nasopharyngeal and intestinal)^[5]. The chances of oral myiasis is comparatively much lesser than that of the other myiasis as oral mucosa are not permanently exposed to the external environment^[6]. Most commonly affected portion of oral cavity are the anterior part of both jaws and the palate due to direct inoculation of the tissues^[7]. Geographical distribution of oral myiasis is limited to tropical and subtropical regions of Africa, America and South East Asia due to favorable climatic conditions^[8]. Main contributing factors responsible for myiasis are poor socioeconomic status, immunocompromised state, debilitating disease and unhygienic life style whereas the risk factors are suppurative lesions, facial trauma, mouth-breathers, extraction wounds, fungating carcinomas and others conditions^[5,9]. It may be proposed that this leads to foul smell that leads to attraction of flies as seen in almost all cases.

CASE REPORT

A 57-year old man, reported to our department of Oral & Maxillofacial Surgery, with a chief complaint of swelling in the maxillary anterior region with a history of maxillofacial trauma a week ago, leading to mobility of front teeth. The patient's medical history revealed that he was a chronic alcoholic and having poor general hygiene due to indifferent attitude. Intraoral examination revealed grade 3 mobility of tooth #11 and grade 2 mobility of tooth #21 along with separation of both buccal and palatal attached gingiva. Gingiva was red in color, soft and edematous inconsistency. In addition, incompetent lips, poor oral hygiene, halitosis and mouth breathing habit were also noticed (Fig - 1, 2, 3).

After reflecting the stripped labial gingiva, number of maggots were seen in the necrotic area (Fig - 4).

The treatment included flushing the affected area with turpentine oil and hydrogen peroxide following



Fig 1



Fig 2



Fig 3



Fig 4



Fig 5



Fig 6



Fig 7



Fig 8

administration of local anesthesia and manual removal of maggots with tweezers (Fig-5). Approximately 60 to 70 maggots were harvested. Teeth #12 was extracted along with debridement of necrosed tissue. The area was then washed with saline, followed by irrigation with betadine. Broad spectrum antibiotic amoxicillin with clavulanic acid (625mg), anaerobic coverage with metronidazole (400mg) and analgesic ibuprofen with paracetamol were prescribed. The larvae are collected and sent for entomological identification (Fig-6). This procedure was repeated for 3 consecutive days until no maggots were left inside. The edema subsided considerably along with findings of normal healing process (Fig - 7,8)

DISCUSSION

Flies responsible for myiasis belong to the order Diptera and the genera commonly reported are Sarcophagidae, Calliphoridae, Oestridae and Muscidae^[10,11].

Laid down by the adult female flies, the eggs hatch within 24 hrs and the resulting larvae burrow into the host's tissues head-downwards into the wound in a characteristic screw-like fashion, feeding on living tissue. The larvae release toxins to destroy the host tissue. Proteolytic enzymes released by the surrounding bacteria decompose the tissue on which the larvae feed. The larvae complete their development in 5–7 days. They then wriggle out of the wound and fall to the ground to pupate^[12].

The treatment consists of topical application of turpentine oil, mineral oil, chloroform, ethyl chloride, ether, olive oil, calomel, iodoform, phenol mixture or mercuric chloride followed by manual removal of the larvae, surgical debridement and intensive irrigation followed by dressing and systemic antibiotic therapy^[2]. Recently, a systemic treatment with Ivermectin (6mg once daily for three days), a semisynthetic macrolide antibiotic isolated from *Streptomyces avermitilis* has been used for the treatment of oral myiasis, acts by blocking the nerve impulses on nerve endings through the release of gamma amino butyric acid, which leads to paralysis and subsequent death of the parasite^[13,14]. The cases of oral myiasis with no medical systemic complications recover completely on removal of larvae.^[15]

CONCLUSION

Early diagnosis is of paramount importance to initiate prompt treatment. Myiasis can be suspected in cases of delayed healing despite appropriate antibiotic treatment. It is usually the special people with mental or physical disability who are affected because of the difficulties in maintaining good oral hygiene and negligence of parents/guardians. The personnel taking care of these special people are

advised to ensure personal hygiene and adopt suitable practices for a good environmental hygiene to prevent the occurrence of myiasis infestations.

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