Case Report
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Oral cavity hosting the parasites: 2 Case reports and review of literature of Oral myiasis

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Abstract

The infestation of animal and human wounds by the larvae of Diptera results in wound or traumatic myiasis. It may involve species of fly whose larvae feed only on diseased and dead tissue or, more seriously, it may involve species that are obligate parasites and feed on the living tissues of their hosts. Here we present 2 case reports of female patients with oral myiasis. The incidence of oral myiasis is less when compared to cutaneous myiasis as oral tissues are not permanently exposed to the external environment. The predisposing factors include low socioeconomic status, immuno compromised state, debilitated, and unhygienic living conditions.

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1. Introduction

The term myiasis was first proposed by Hope (1840) to refer to diseases of humans originating specifically with dipterous larvae, as opposed to those caused by insect larvae in general, scholechiasis. [1]Myiasis has been defined as "the infestation of live vertebrate animals with dipterous larvae, which, at least for a certain period, feed on the host's dead or living tissue, liquid body substances, or ingested food".[2] Suppurative lesions, facial trauma, mouth-breathers, extraction wounds, fungating carcinomas, and other conditions are considered to be the risk factors. [3]

Case Report 1

A 42-year-old female child with neurological deficit reported with chief complains of swelling of upper lip and jaw, discomfort with upper front teeth region since 4-5 days. On examination the patient was moderately built. Extra oral examination revealed incompetent lips, a solitary, large, diffuse, swelling of size approximately 4 × 3 in size associated with upper lip with overlying skin tense, and shiny (Figure 1). The swelling was tender to palpation, soft, and edematous. Intraoral examination revealed mutilated labial gingiva in the region of the maxillary incisors with multiple fenestrations. The anterior labial gingiva showed a poorly defined swelling measuring 3 × 1 cm with detachment and exposure of underlying bone. Larvae were noted crawling within the gingival lesion. The surrounding mucosa was inflamed and tender to palpation and discharge was evident. Based on clinical findings and presence of maggots, a provisional diagnosis of oral myiasis was made. Cotton bud impregnated with turpentine oil was placed at the orifice of the socket for approximately 10 minutes. 7-8 maggots were manually removed with the help of hemostats. Patient administered InjAmoxycillin, Potassium Clavulanate and Inj Metronidazole IV for 3 days. The larvae were mechanically removed for next three consecutive days with exploration, curettage, and warm saline irrigations till no further larvae could be found.

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Figure 1. Intraoral view showing necrotic ulcer with pus discharge in the maxillary anterior region and presence of live larvae inside along with poor oral hygiene.

Case Report 2

A 52-year-old woman indigent, living on streets, was brought to our department presented with acute upper lip swelling with an extensive necrotic area and fetid odor. The oral examination revealed a diffused indurated swelling non-fluctuant on palpation. In addition, general symptoms including pain, fever and malaise were present. The patient presented a poor oral and general hygiene and was confused about the evolution time. The surface of the swelling revealed ulcerated area which lived a number of maggots, involving intra-orally mucolabial fold (Fig. 2).



Figure 2. Patient with incompetent and swollen lips, ulcerative lesion seen in the maxillary left vestibule with abundant live larvae inside.

2. Discussion

Clinically, myiasis can be classified as primary and secondary. They are based upon the degree of host dependence, mode of infestation and anatomic sites. [Table 1] Cutaneous myiasis is perhaps the most commonly observed and reported entity among all. The larvae of house fly (Musca domestica) and the blow flies or bottle flies (Calliphora, Phaenicia, Lucilia, and Phormia spp.) are the main cause of wound infestation and referred as 'facultative myiasis'. [4]Oral myiasis is a rare disease associated with poor or neglected oral hygienic conditions and in patients having conditions such as cancrumoris, cerebral palsy, mouth breathing, neglected mandibular fractures, patients undergoing mechanical ventilation, alcoholics, and in those using narcotics. It is most commonly seen in the anterior maxillary region owing to the easy accessibility of the site to flies. [5] Oral myiasis may be caused by a variety of fly species, including Chrysomyabezziana, Cochliomyiahominivorax, Musca domestica, Oestrusovis, and Wohlfahrtiamagnifica. The flies lay over 500 eggs at a time directly over the diseased tissue. The eggs hatch in less than 1 week and the life cycle is completed in about 2 weeks. The larvae obtain their nutrition from the surrounding tissues and burrow deeper into the soft tissues by making tunnels, separating the gingival and mucoperiosteum from the bone. [6]

Standard guidelines for management of oral myiasisdo not exist, but more than a few authors note that theideal approach is to remove all larvae and perform surgicaldebridement. [7] The treatment incorporated in ourcase was simple and involved usage of antilarval measures(turpentine oil) followed by removal of the larvae. [8]Treatment approaches other than procedural removalof the maggots include occlusion and administration oflarvacides. These techniques can be used in additionto manual removal, or if manual removal is not possible.By depriving larvae of oxygen, occlusion of an infestedwound either kills the larvae or induces them to movemore superficially where they can be removed more easily.Occlusion of infested wounds with a variety of substanceshas been described, including petroleum, nail polish, animalfat, beeswax, paraffin, hair gel, and mineral oil with variedsuccess. [9]Myiasis is generally self-limiting and in many cases not dangerous to the host. There is low incidence of this parasitic disease in humans, in particular the oral manifestation of this disease, which requires the knowledge and skill of a dentist.

Table 1. Classification of Oral myiasis

Classification Criteria	Subtypes
I) Based on Substrate [10]	i) Primary Myiasis: caused by biophagous larvae which feed on living tissue, commoner in cattle and rare in humans ii) Secondary Myiasis: caused by the necrobiophagous flies which feed on dead tissue, more common type and infests patients with lesions that have necrotic cavities
II) Based on degree of the host dependence [8]	i) Obligatory Myiasis: are those where fly larvae are completely parasitic and depend upon the host for completion of their life cycle. ii) Facultative Myiasis: are those where the fly larvae are free living and only circumstantially adapt themselves to parasitic dependence to a host.
III) According to the mode of infestation [10]	i) Accidental Myiasis: larvae ingested accidentally with food produce infection. ii) Semi specific Myiasis: the larvae are laid on necrotic wound. iii) Obligatory Myiasis: larvae affect undamaged skin.
IV) Depending upon the anatomic sites [10]	i) Cutaneous Myiasis ii) Myiasis Of External Orifices includes oral, nasal, ocular, aural, anal, genital regions. iii) Myiasis Of Internal Organs includes intestinal, urinary region.

3. Conflict of Interest

None Declared

4. References

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