Creepy Crawlies in the Mouth: A Rare Case Report

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INTRODUCTION

The term myiasis (Greek: myi = fly) is used to refer to the infestation of living tissues of humans and animals by dipterous eggs or larvae. The oral cavity is rarely affected by this infestation and the oral myiasis has been associated with poor oral hygiene, alcoholism, senility, suppurating lesions, severe halitosis and others conditions. The myiasis can be classified as obligatory, when larvae develop in living tissue, or facultative, when maggots feed on necrotic tissue. The obligatory myiasis is more harmful for the humans. The most common anatomic sites for myiasis are the nose, eye, lungs, ear, anus, vagina and, rarely, the mouth.

CASE REPORT

A 13-year-old mentally challenged boy, living in a village in India, was brought to Swami Devi Dyal Hospital and Dental College, Barwala, Haryana, India, and presented with acute swelling and fetid odor from the oral cavity. The parents gave a history of severe vomiting two days back, and observed some worms in the upper lip area. On extraoral examination the child appeared to be young for his chronologic age, was unable to walk, mentally challenged, and had an extraoral swelling in the upper lip area (Fig. 1). In addition, general symptoms including pain, fever and malaise were present.

Intraoral examination revealed three perforations, one each in relation to 11 and 21 with live maggots, and one on the alveolar mucosa (Fig. 2). The patient’s management included application of turpentine oil and removal of maggots and necrotic tissue with the help of tweezers, followed by complete debridement of the area, oral therapy with ivermectin (3 mg orally once a day for 3 days). This procedure was carried out five times over a period of ten days to completely remove all maggots. After the complete removal of the maggots and necrotic tissue, the wound was allowed to granulate and epithelialise.

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larvae removal, the swelling and the wounds healed unconditionally. The patient was then subjected for the remaining dental treatment as required.

**DISCUSSION**

Oral myiasis can either be primary or, occasionally, secondary to nasal involvement, especially when the maggots penetrate to the paranasal sinuses or palate. Primary oral myiasis commonly affects the anterior part of the mouth particularly the palate.4 The classification of myiasis is as follows:5

1. Those in which the larvae live outside the body
2. Those in which the larvae burrow into unbroken skin and develop under it
3. Those which live in the intestinal or urinary passages
4. Those in which eggs or young larvae are deposited in the wounds or natural cavities in the body.

Although this condition is rare in western countries it is relatively common in developing countries. Cases of myiasis generally occur in patients with poor oral hygiene, however, in this case the oral hygiene was good even though the patient was mentally challenged. The only contributory factor was that he was a mouth breather, and a positive history of severe vomiting two days back (thus leading to a physical wound).

Myiasis of the oral cavity is usually caused by flies of the order Diptera6-7. The larvae of Diptera normally develop in decaying tissue; however, there have been reports of infestation of healthy tissue.8 *Musca nebulo* is the commonest Indian housefly. They are seen in abundance in human dwellings and are very active during summer and rainy season.9 The lifecycle of a fly begins with egg stage followed by the larvae, pupa and finally the adult fly. The conditions required for egg laying and survival of the larvae are moisture, necrotic tissue and suitable temperature. In the presence of favorable condition, the female fly deposits its eggs. After hatching, the larvae develop in to the worm, moist environment, burrow into oral tissue, obtain nutrition and grow larger. The patient in the present case was of low socioeconomic status having poor living conditions. Mouth breathing was the probable predisposing factor in this case. In addition, the patient had neurologic deficit and was physically dependent on his family members for day-to-day routine activities. So, probably the open mouth provided the mechanical support, suitable substrate and temperature for the survival of the larvae. The stage of larvae lasts for 6 to 8 days during which they are parasitic to human beings. The larvae have backward directed segmental hooks with which they anchor themselves to the surrounding tissue. They are photophobic and tend to hide deep into the tissues for a suitable niche to develop into pupa.10

The presence of these hooks makes manual removal of larvae from the host difficult. So, when multiple maggots are detected as observed in our case, elimination can be achieved with agents like turpentine oil or topical irritants, such as ether, chloroform, olive oil, calomel, iodoform and phenol mixture. These larvae release toxins to destroy the host tissue.11 Proteolytic enzymes released by the surrounding bacteria decompose the tissue and the larvae feed on this rotten tissue.5 The infected tissue frequently releases a foul smelling discharge.11 Treatment consists of manual removal of maggots, broad spectrum antibiotics and oral therapy with ivermectin. Ivermectin4 is a semi-synthetic macrolide antibiotic isolated from *Streptomyces avermitilis* and has been found to be an efficient and safe method for treatment of myiasis. Conditions leading to persistent mouth opening along with poor hygiene, suppurative lesions, severe halitosis and facial trauma may predispose the patient to oral myiasis.12

**CONCLUSION**

Though a rare and a horrifying condition, oral myiasis still finds its prevalence in underdeveloped countries. It can be potentially fatal if not treated early. So, as an old adage “prevention is better than cure” the disease should be prevented by maintaining good oral and personal hygiene.

Adequate care should be provided for individuals with special needs. They should be exposed to the dental intervention as early as possible to promote cooperation and confidence and to prevent disease. We accentuate the need for a careful oral examination to identify less common diseases, especially in medically compromised patients.

**REFERENCES**