

ORAL MYIASIS-MAGGOTS IN MOUTH - A CASE REPORT

Gayathri Murali, Poornima Vijayakumar, Jayanthi Mungara, Akila Veerapandiyian.

Department of Pedodontics and Preventive Dentistry
Ragas Dental College and Hospital, Uthandi, Chennai, Tamilnadu

To access & Cite this article

Website: www.jidam.idamadras.com



Address for Correspondence:

Dr. Gayathri Murali, PG Student,
3E, Saravana Apartment,
240, St. Marys Road, Mandaveli,
Chennai-600028, Tamilnadu
E-mail : drgayathrimurali1992@gmail.com

ABSTRACT

Myiasis commonly refers to invasion of human or animal tissue by larvae of dipteran flies wherein they complete their lifecycle or a part of it by feeding on living or dead tissue and liquid body secretion and fluids. Occurrence of oral myiasis is rare and is often associated with poor oral hygiene, poor sanitation and seen in warm humid climatic condition. Oral myiasis if left untreated can cause serious problems to the adjacent structures. This case report discusses oral and cutaneous myiasis with its management in an eighteen year old cerebral palsy boy.

KEY WORDS- Cerebral palsy, maggots, myiasis, poor oral hygiene.

Received : 08.02.2019

Accepted : 21.02.2019

Published : 26.03.2019

INTRODUCTION:

F.W. Hope in 1840 coined the word "Myiasis". "Myia" is derived from greek word, which means invasion of vital tissue of humans or other mammals by fly larvae. According to Zumpt, myiasis is the infestation of live human and vertebrate animals by diptherous larva, which atleast for a certain period feed on host's dead or living tissue, liquid body substances or ingested food¹. Oral myiasis was first stated by Lawrence in 1909. Nose, eyes, ears, skin around the wound, sinuses, lungs, gut, gall bladder, vagina and very rarely mouth are the most vulnerable sites for host to get infested by larvae under conducive environment². Myiasis is usually seen in summer months in temperate zone and throughout the year in tropical zone (ie) temperature that facilitates growth of fly population. The predisposing factors associated with oral myiasis includes anatomical, medical and psychological disturbances wherein the oral cavity is exposed to external environment for a long duration such as mouth breathing during sleep, in case of anterior open bite, incompetent lips, patients with cerebral palsy³, mental retardation, alcoholism, facial trauma, extraction wounds, ulcerative lesions, cancrum oris⁴ and carcinoma.

Various classifications of myiasis have been proposed. It can be primary myiasis (larvae feed on living tissue - Biophagous) and secondary myiasis (larvae feed on dead tissue -Necrobiophagous)⁵. Based on the mode of infestation it can be accidental myiasis (ie) larvae ingested along with food or semi specific myiasis when larvae is laid on the necrotic tissue of the wound. Based on the nature of larvae it can be obligatory or facultative. Based on its anatomic site, it can be cutaneous myiasis, myiasis of external orifices and myiasis of internal organs⁶. Oral myiasis is a rare entity which can be prevented by creating awareness among public and through control of fly population. It can be managed by making the necrotic tissue devoid of larvae thus facilitating normal healing of the host tissue which will prevent the destruction of bony structures.

CASE REPORT:

An 18 year old male patient reported to the Department of Pedodontics and Preventive dentistry

with the chief complaint of bleeding gums for the past three days. From the history it was evident that the patient was having cerebral palsy and mental retardation since birth and has been bedridden (Fig 1).

On general examination the patient was thin built, malnourished, febrile, conscious but potentially cooperative. The patient had protruding upper front teeth and incompetent lips. On obtaining further history, it was evident that the patient was from the place with poor sanitation surrounded by cattle animals.

On intra-oral examination, the labial mucosa of the upper arch showed diffuse swelling extending from mesial aspect of 21 to distal aspect of 12. The swelling was tender on palpation. The labial and palatal mucosa was erythematous and appeared mutilated. The palatal mucosa near 11 showed deep burrowing with multiple cavitations leading to detachment from underlying bone. Visible larvae were crawling inside the lesion of buccal and palatal mucosa (Fig 2). Maggots were also found inbetween upper right pre-molars.

Based on the history and clinical findings obtained, a provisional diagnosis of oral myiasis was made. In the first appointment, manual extirpation of 15 maggots was done with the help of tweezers and the site was copiously irrigated with saline. (Fig 3) The patient was prescribed antibiotics and analgesics for 3 days so as to control the temperature from rising and to prevent secondary infection.

On the second day, the patient was still febrile and secondary site involvement was noted on the right palmar aspect (Fig 4). The skin showed suppuration and sloughing measuring about 2 x 3 mm oval in shape and had larvae crawling out of it. The patient was admitted on out-patient basis and started on intravenous antibiotics. The larvae were removed every one hour by padding the lesion with gauze soaked in diluted hydrogen peroxide for about one minute. About 12 larvae were removed and mucosa was irrigated with saline and betadine. Same procedure was carried out in right palmar aspect.

On the third visit, the patient was found to be afebrile and complete healing of right palmar

aspect (Fig 5) and signs of healing of oral mucosa were noted. To rule out the suspicion of leaving out remnants larvae, oral Ivermectin 3mg single dose was prescribed to the patient.

The patient reported for review and showed complete healing of oral mucosa at the end of seventh day (Fig 6). Occlusal radiographs were taken to appreciate the status of alveolar bone. Both the alveolar bones and periodontium appeared normal.



Fig 1 – Patient's photograph



Fig 4 - Lesion in right palmer region



Fig 5 - Healed lesion in right palmar aspect



Fig 2 - Extirpating the maggots from oral cavity



Fig 6 - Healing of affected site



Fig 3 – Extirpated maggots

DISCUSSION:

Oral myiasis is a rare disease affecting human beings. This condition is mostly caused by species of dipterous flies among the genera *Chrysomya* and *Cochliomyia*⁷. Life cycle of larvae consists of four stages; egg, larvae, pupa and adult fly. The larvae falls on the ground to pupate and latter achieve adult size. The larvae feed on the host tissue till they mature and becomes a pupa. These larvae which are photophobic tend to hide deep into the tissue and cause burrowing of soft tissue.

This burrowing may cause separation of the mucoperiosteum from the bone. If left untreated it can release toxins and cause bony erosion⁸.

Standard protocol for management of oral myiasis doesn't exist, but from the literature evidence, the ideal method is to manually extirpate the larvae after creating an anaerobic medium for the larvae. Since the larvae are photophobic, they are deep seated and the segment hooks of larvae helps them to anchor firmly to the adjacent tissue. The larvae respire with the help of posterior spiracles and thus they position their heads downward making their retrieval difficult. By depriving larvae of oxygen, suffocate them with occluding agents like turpentine, beeswax, nail polish, animal fat, mineral oil, starch will either kill the larvae or induce them to move more superficially after which they can be removed easily⁹.

Turpentine is the most commonly used occluding agent but is known to cause tissue necrosis and can produce reversible epithelial hyperplasia, hyperkeratosis and ulceration⁷. More over in this case the patient had mental retardation and the risk of swallowing turpentine was high. Thus 3% hydrogen peroxide was diluted with saline and used as an occluding agent. Systemic antibiotics were suggested as increase in bacterial count can increase the necrosis of tissue thus facilitating the larva to flourish and cause more tissue damage.

Oral ivermectin, a semi-synthetic macrolide antibiotic, isolated from streptomyces avermitilis was suggested to the patient so as to eradicate larva completely¹⁰. Ivermectin blocks the nerve impulses on the nerve ending by the release of GABA (Gamma Amino Butyric Acid) linking to the receptors and causing paralysis and death of larvae. Ivermectin is considered as a safe and a good alternate in the management of myiasis.

CONCLUSION:

Oral myiasis is a rare and preventable disease. The only threat it possess is damage to the hard tissue structure and spread to vital organs. Prevention of the disease can be done by creating awareness among public and therapeutic treatment should be focused on manual debridement of maggots along with

antibiotic therapy. Ivermectin can also be used as an adjunct to obtain better prognosis.

FINANCIAL SUPPORT AND SPONSORSHIP:
Nil

CONFLICT OF INTEREST :
There is no conflict of interest

REFERENCES:

1. Zumpt F. Myiasis in man and animals in the old world. A textbook for physicians, veterinarians and zoologists Butterworths 1965;11-25.
2. Abdo EN, Sette-Dias AC, Comunian CR, Dutra CE, and Aguiar EG. Oral myiasis: a case report . Med Oral Patol Oral Cir Bucal 2006;11:E130–E131.
3. M. Al-Ismaily and C. Scully. Oral myiasis: report of two cases. Int J of Paed Dent 1995;5: 177–179.
4. Aguiar AM, Enwonwu CO, Pires FR. Noma (cancrum oris) associated with oral myiasis in an adult. Oral diseases. 2003;9:158-9.
5. Ribeiro FA, Pereira CS, Alves A, Marcon MA. Treatment of human cavitary miasis with oral ivermectin. Rev Bras Otorrinolaringol 2001;67:755-61.
6. Reddy MR, Das N, Vivekananda MR. Oral myiasis in children. Contemporary Clinical Dentistry 2012;3:S19.
7. Srinivasan R and Pani SP. Myiasis in human filarial lymphedema. The Southeast Asian Journal of Tropical Medicine and Public Health 1992;23:807–808.
8. Sood VP, Kakar PK, Wattal BL. Myiasis in otorhinolaryngology with entomological aspects. J Laryngol Otol 1976;90(4):393-9.
9. McGraw TA and Turiansky GW. Cutaneous myiasis. Journal of the American Academy of Dermatology 2008;58:907–926.
10. Shinohara EH, Martini MZ, Oliveira Neto HG, Takahashi A. Oral myiasis treated with ivermectin: case report. Brazilian Dental Journal 2004;15(1):79-81.