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CASE STUDY

MANAGEMENT OF ORAL MYIASIS

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ABSTRACT

Hope for the first time introduced myiasis in 1840, as a disease of the animals which sometimes affects the human organs. The word myiasis was derived from a Greek word "myia" which means fly. Zumpt (1965) defined myiasis as "the infestation of live humans and vertebrate animals with dipterous larvae, which at least for a certain period feed on the host's dead or living tissue". Oral myiasis is a rare condition which was first described by Laurence (1909). It is defined as "the invasion of the soft tissue or towards foul smelling pus discharge from the tissues, where it is induced to lay eggs". Myiasis is caused by Diptera order flies and the genus commonly involved are Sarcophaga and Chlorysoma (Zumpt-1965, James-1947). Myiasis frequently occurs in rural areas infecting livestock and pets such as cats and dogs. In humans myiasis prevails in unhealthy individuals found in third world countries. The predisposing factors are persistent mouth opening along with poor oral hygiene, suppurative lesions and facial trauma. Oral myiasis is rare in comparison to cutaneous myiasis, as the oral tissues are not permanently exposed to external environment. Here we present a case of oral myiasis affecting the anterior aspect of the hard palate.

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INTRODUCTION

Hope (1940) for the first time introduced myiasis in 1840, as a disease of the animals which sometimes affects the human organs. The word myiasis was derived from a Greek word "myia" which means fly. Zumpt (1965) defined myiasis as "the infestation of live humans and vertebrate animals with dipterous larvae, which at least for a certain period feed on the host's dead or living tissue". Oral myiasis is a rare condition which was first described by Laurence (1909). It is defined as "the invasion of the soft tissue or towards foul smelling pus discharge from the tissues, where it is induced to lay eggs". Myiasis is caused by Diptera order flies and the genus commonly involved are Sarcophaga and Chlorysoma (Zumpt-1965, James-1947). Myiasis frequently occurs in rural areas infecting livestock and pets such as cats and dogs. In humans myiasis prevails in unhealthy individuals found in third world countries. The predisposing factors are persistent mouth opening along with poor oral hygiene, suppurative lesions and facial trauma. Oral myiasis is rare in comparison to cutaneous myiasis, as the oral tissues are not permanently exposed to external environment. Here we present a case of oral myiasis affecting the anterior aspect of the hard palate.

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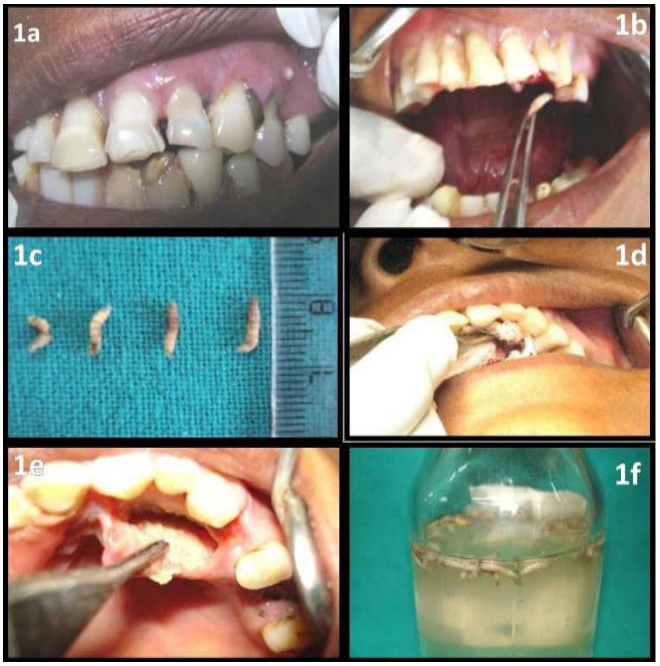
Case report

A 45 year old female of low socio-economic status with no neurological deficit reported to the Department of Oral and Maxillofacial Surgery, Uttaranchal Dental and Medical Research Institute, Dehradun, India; with a complaint of swelling on the palate with pus discharge. Extra oral examination revealed no gross deformity except incompetent lips. On intra oral examination solitary, soft and fluctuant swelling was observed on the palatal aspect with respect to 21, 22, and 23. A pus draining sinus was present in respect to 23 on the buccal aspect with maggots moving interdentally between 22 and 23[Fig.1a]. The patients had proclined maxillary anteriors with generalized attrition in addition to poor oral hygiene, intense halitosis and advanced periodontal disease. Therefore based on the history, examination and presence of the maggots' provisional diagnosis of Oral Myiasis was made. On radiographical examination generalized horizontal bone loss was found and Hematological investigation were within the limits except hemoglobin which was low (Hb-10mg %). The treatment regimen was initiated with mechanical removal of maggots [Fig.1b]. About 20-22 maggots were removed with the help of a tissue holding forceps [Fig.1f]. The average size of maggot was 8-9mm [Fig.1c]. After that, gauze impregnated with turpentine oil was placed at the opening made palatally [Fig.1d,1e], for approximately 8-10 minutes. The same

procedure was repeated for two more days and it was observed that there were no more maggots' remaining at the site. Further management included Curettage and placement of idoform pack for five days. Oral therapy with tab Ivermectin 6mg, once daily for three days was advised with chlorhexidine mouthwash. An adjunct antibiotic course was also started to prevent any secondary infection. Later on the patient was referred to the Department of Periodontics for oral prophylaxis and further management.



[Fig.1a] Intraoral draining sinus present wrt 23 on the buccal aspect with maggots wrt 22 and 23
[Fig.1b] Mechanical removal of maggots
[Fig.1c] The average size of maggot shown as 8-9mm
[Fig.1d,1e] Gauze impregnated with turpentine oil was placed at palatal opening
[Fig.1f] Maggots removed with the help of a tissue holding forceps

DISCUSSION

Myiasis is a rare disease in humans. Most of the cases reported in developing countries are due to poor oral hygiene, intake of contaminated food and warm climatic conditions. Depending on condition of the involved tissue, Myiasis can be classified as- Accidental Myiasis, when larvae is ingested along with food. Semi-specific Myiasis, when larvae are found on necrotic tissue of the wound. Obligatory Myiasis, in which larvae affects the undamaged skin (Erfan-1980). Myiasis was also subdivided according to the anatomical site by Lim (1974), into cutaneous Myiasis, Myiasis of external orifices (aural, ocular, nasal, oral, vaginal and anal) and Myiasis of internal organs (intestinal and urinary). The most common housefly found in India is Musca Nebwa. It is generally found in human dwellings, especially in summer and rainy season. The life cycle of a fly begins from egg stage, which develops into a larva, then pupa and finally an adult fly. The open wounds, sores and contaminated ulcers provide a favorable environment for the growth of these eggs. The larvae stage lasts for about 6-8 days, during which they are parasitic to human beings. The larvae has hooks in segments which are directed backwards, with it they anchor themselves to the surrounding tissue. The patient reported was of low socio-economic status having poor living conditions. Persistent mouth opening with poor oral hygiene and advanced periodontal disease was observed in the patient, which are the most prominent predisposing factors for oral Myiasis. In the case reported here, it can be assumed that the eggs or larvae had been laid either directly on the gingival surface or entered there indirectly through food and subsequently transferred to the gingival sulcus. Later on the larvae hatched and started its development. It then penetrated into the gingival tissues where its development was rapid and caused concise localized tissue destruction. The treatment of oral Myiasis includes manual removal of maggots' along with placement of olive oil, clove oil or turpentine oil. In our patient turpentine oil was placed at the affected site. It is a toxic chemical as it produces hypoxia. Therefore due to oxygen depletion in the tissues the maggots' came to the surface and hence were removed with more ease. This condition regresses when turpentine oil is withdrawn. The area was curetted and packed with idoform gauze for 5 days. Anti-parasitic, tab Ivermectin 6mg once daily for 3 days was prescribed to the patient with chlorhexidine mouthwash. Antibiotics were also prescribed to prevent any secondary infection. Further oral prophylaxis was carried out in the Department of Periodontics.

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