

Unveiling the Clinical Enigma of Oral Myiasis: A Case Report and Literature Review

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ABSTRACT

Background: Oral myiasis is invasion of body tissues or cavities of living animals by maggots or larvae. Even though it is not considered as rare disease, most dental professionals have very little knowledge about diagnosis and treatment of this pathology. A case report of a 12-year-old patient with cerebral palsy is presented in this article. This review aims to delve into the multifaceted nature of oral myiasis, exploring its etiology, epidemiology, clinical manifestations, diagnostic approaches, treatment modalities, and preventive strategies. Drawing from a diverse array of literature and case studies, this comprehensive review with case report provides a thorough understanding of this intriguing condition..

Keywords: Oral myiasis; myiasis; parasitic infections; maggots; infestation.

INTRODUCTION

The term myiasis, was coined by Hope in 1840^[1]. This term, which is originated from the Greek word “myia”, meaning fly. It frequently occurs in animals such as cattle, goats and pigs and pets like dogs and cats. The infestation can occur in organs or tissues that are accessible to egg-laying and development of larvae, which feed on living or necrotic tissue. Myiasis can affect different parts of the human body such as skin, gut, bladder, nasal cavities, aural cavities, eyes and occasionally the oral cavity. The present paper presents a case of oral myiasis in 12-year-old boy.

CASE REPORT

A 12-year-old boy with cerebral palsy from rural area was presented with a complaint of swelling in the upper lip and presence of worms in the mouth for two days. The patient had habit of mouth breathing. Extra oral examination revealed incompetent upper lip with a diffuse swelling in the same region. Intra oral examination (**Figure 1**) revealed burrowing of labial and palatal gingival

sulcus in upper incisor region filled with many live, wiggling maggots. The patient had poor oral hygiene and severe halitosis. Based upon the history and presence of maggots, provisional diagnosis of oral myiasis was made. No abnormality was detected on radiological examination ruling out involvement of deeper tissues. A cotton swab dipped with turpentine oil was placed on the labial and palatal gingival sulcus for about 10 minutes and all visible larvae were removed manually with tissue forceps (**Figure 2**)

DISCUSSION

The etiology of oral myiasis is multifactorial, often stemming from predisposing factors such as poor oral hygiene, open wounds, oral lesions, neurological disorders, or immunocompromised states ^[2]. Flies of the Calliphoridae family, particularly *Cochliomyia hominivorax* and *Chrysomya bezziana*, are commonly implicated in oral myiasis ^[3]. The deposition of fly eggs in oral cavities or wounds provides an ideal environment

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for larval development, facilitated by factors such as warmth, moisture, and necrotic tissue [4]. Subsequent larval feeding leads to tissue destruction and inflammation, perpetuating the cycle of infestation.

Figure 1: Intraoral photograph of the patient at presentation Showing larvae in anterior maxillary region.



Figure 2: Manual removal of maggots with tissue forceps



Figure 3: Live larvae after removal



Apart from manual removal Ivermectin 3 mg was given orally once daily for two days. Figure 3 shows

live larvae after removal. The wound is thoroughly cleaned with saline and patient was called next day. The same procedure was carried out for two days and more larvae were removed. After the complete larvae removal the swelling and inflammation subsided. The patient returned for follow-up examination after one week and showed complete healing of gingival sulci. Complete adaptation of gingival flap was noticed.

Oral myiasis exhibits a global distribution, albeit with varying prevalence rates across different regions [5]. The condition predominantly affects individuals residing in rural or underprivileged communities with limited access to healthcare and sanitation facilities [6]. Certain occupations, such as agriculture or livestock farming, may also predispose individuals to fly exposure and subsequent myiasis [7]. While oral myiasis is relatively rare, its incidence may be underreported due to factors such as patient embarrassment, misdiagnosis, or lack of awareness among healthcare providers [8].

The clinical presentation of oral myiasis encompasses a spectrum of symptoms ranging from mild discomfort to severe tissue destruction [9]. Early signs may include oral pain, itching, halitosis, and the sensation of foreign body movement [10]. As the infestation progresses, patients may develop ulceration, bleeding, and purulent discharge, accompanied by visible larvae within the oral cavity [11]. In advanced stages, extensive tissue necrosis and secondary infections may occur, posing significant health risks for affected individuals.

Diagnosing oral myiasis requires a systematic approach, beginning with a thorough clinical examination of the oral cavity [13]. The presence of maggots, necrotic tissue, or purulent discharge is indicative of myiasis, necessitating further investigation [14]. Imaging modalities such as computed tomography (CT) or magnetic resonance imaging (MRI) may be employed to assess the extent of tissue involvement and guide treatment planning [15]. Differential diagnoses include oral infections (e.g., candidiasis, periodontitis), neoplastic lesions, traumatic injuries, or other parasitic infestations, underscoring the importance of a comprehensive differential diagnosis [16].

The management of oral myiasis revolves around prompt larval removal, wound debridement, infection control, and supportive care [17]. Mechanical extraction of larvae using forceps or suction devices is the primary treatment modality, accompanied by thorough irrigation of the affected area [18]. Topical antiseptic agents such as povidone-iodine or chlorhexidine may be applied to prevent secondary infections and promote wound healing [19]. Systemic antibiotics may be prescribed in cases of extensive tissue involvement or systemic manifestations [20]. Surgical intervention, including debridement or tissue reconstruction, may be necessary for severe or recurrent cases of oral myiasis [21].

Preventing oral myiasis hinges on comprehensive measures aimed at minimizing fly exposure and promoting oral hygiene [22]. Public health initiatives focusing on sanitation, waste management, and insect control are instrumental in reducing the prevalence of myiasis in endemic regions [23]. Educating individuals about the importance of oral care, wound management, and environmental sanitation can empower communities to mitigate the risk of myiasis [24]. Implementing insect screening measures in healthcare facilities, residential areas, and food establishments can further deter fly infestation and subsequent myiasis outbreaks [25].

CONCLUSION

Oral myiasis, though rare, presents a formidable challenge for clinicians due to its complex etiology and potential complications. This comprehensive review with case report provides a holistic understanding of oral myiasis, encompassing its epidemiology, clinical manifestations, diagnostic approaches, treatment strategies, and preventive measures. If caught in initial stage, one can prevent involvement of deeper tissues consequently avoiding greater suffering by the patient during treatment. By synthesizing insights from current literature and clinical experience, healthcare professionals can enhance their ability to recognize, manage, and prevent oral myiasis, thereby improving outcomes for affected individuals.

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