

## Case Report

# Oral myiasis associated with drug induced gingival hyperplasia – a rare case report

Rohit B. Gadda<sup>1,\*</sup> , Ankush Agrawal<sup>2</sup> , Santosh Kumar SN<sup>3</sup>, Tushar Manohar Rothe<sup>4</sup>

<sup>1</sup> Department of Oral Medicine and Radiology, MGM's Dental College & Hospital, Navi Mumbai, Maharashtra, India

<sup>2</sup> Department of Oral & Maxillofacial Surgery, Dr. Rajesh Kambe Dental College, Akola, Maharashtra, India

<sup>3</sup> Citi care Hospital, Pune, Maharashtra, India

<sup>4</sup> Y.C.M.M. and RDF's Dental College, Ahmednagar, Maharashtra, India

(Received: 5 May 2021, accepted: 6 July 2021)

**Keywords:**  
Oral myiasis /  
gingival hyperplasia

**Abstract – Introduction:** Myiasis (Greek: myi = fly) refers to infestation of living tissues of humans and animals by Dipterous eggs or larvae. Incidence of oral myiasis is comparatively lesser than that of cutaneous myiasis. We report a rare case of oral myiasis of anterior maxilla associated with drug induced gingival enlargement. **Observation:** We report a rare case of oral myiasis of anterior maxilla with amlodipine induced gingival enlargement in a sixty-two-year-old male with history of hypertension, hemiplegia and diabetes mellitus. Patient was mouth breather and presented with poor oral hygiene. Generalized gingival hyperplasia was observed. Multiple maggots were observed in the ulcerated areas on maxillary anterior alveolus. The maggots were mechanically removed with curettage after application of turpentine oil. Cleaning and debridement of the wound was done. After one month follow-up there was complete healing of the lesion. Maintenance of oral hygiene and gingivectomy as indicated was planned for this patient. **Conclusion:** Clinical significance of presented case is its rarity of association with drug induced gingival hyperplasia and typical presence of multiple predisposing factors. This case report provides interesting information about predisposing factors, clinical features and management of oral myiasis that could help clinicians in the diagnosis and management of this condition.

## Introduction

Myiasis (Greek: myi = fly) refers to infestation of living tissues of humans and animals by Dipterous eggs or larvae. Term myiasis was coined by Hope in 1840 and it was first described by Laurance in 1909 [1]. Myiasis has been defined as a pathological condition in which there is an infestation of living mammals with dipterous larvae, which, for at least a certain period, feed on living or dead tissue in the host and develop as parasites [2]. This phenomenon is well documented in the skin, especially among animals and people in tropical and subtropical areas. Oral myiasis is a rare condition and can be caused by several species of Dipteran fly larvae and may be secondary to serious medical conditions.

The infestation is most often subcutaneous and produces a furunculoid or boil-like lesion but can also occur in wounds and certain body cavities. Myiasis can be caused by several species, the larvae of which feed on the dead or living tissue of the host [3].

Myiasis is classified according to the type of larva present in the wound: 1. Primary myiasis is caused by larvae that feed on living tissues (biophagous); and 2. secondary myiasis is caused by larvae that only feed on dead tissues (necrophagous) [4]. Abdo *et al.* [5] classified myiasis as obligatory (when the larvae require living tissue to survive) and facultative (when the larvae develop in necrotic tissue).

Incidence of oral myiasis is comparatively lesser than that of cutaneous myiasis as oral tissues are not permanently exposed to the external environment [6]. Conditions leading to persistent mouth opening along with poor hygiene, suppurative lesions, severe halitosis, and facial trauma may predispose the patient to oral myiasis. It has been reported among epilepsy patients with lacerated lips following a seizure, incompetent lips and thumb sucking habits, advanced periodontal disease, at tooth extraction sites, fungating carcinoma of buccal mucosa and in patients with tetanus [1]. The myiasis is diagnosed clinically based on presence of the maggots but the classification of the larvae rarely has been made.

We report a rare case of myiasis of anterior maxilla with drug induced gingival hyperplasia in a sixty-two-year-old male with

\* Correspondence: [rohitgadda@gmail.com](mailto:rohitgadda@gmail.com)



**Fig. 1.** Facial photograph with incompetent lips.

history of hypertension, hemiplegia and diabetes mellitus. Clinical significance of present case is its rarity of association with drug induced gingival hyperplasia and typical presence of multiple predisposing factors. One needs to be aware of its predisposing factors, clinical features and treatment modalities.

**Observation**

Sixty-two-year-old male patient reported with the chief complaint of painful wound and bugs in front region of the upper jaw for two days. Pain was localized, intermittent and throbbing in nature. He was smoker and alcoholic for 25 years. The medical history revealed that presence of hypertension for 9 years, hemiplegia for 1.5 years and diabetes mellitus for 4 months. Patient was taking Amlodipine (5 mg), Atenolol (50 mg) and Glibenclamide (5 mg) for his medical conditions.

On general examination, the patient was average built, febrile, conscious, and cooperative and well oriented to time, place and person. He had hemiplegia on right side. Extra-oral examination revealed incompetent lips (Fig. 1) and patient was mouth breather. The patient presented with poor oral hygiene and severe halitosis. Intra-oral examination (Fig. 2) revealed



**Fig. 2.** Intraoral photograph showing maggots in upper labial vestibule.



**Fig. 3.** Mechanical removal of maggots.

an area of necrotic ulceration in the anterior labial and palatal aspect in relation to 11 and 21 accompanied by erythema, redness, and mild bleeding on probing. Closer observation showed palatal perforation with necrotic margins in 11, 21 region in the anterior palate. Multiple worm-like motile organisms were evident within the ulcerated areas on labial and palatal aspect of 11 and 21. Mobility of 11 and 21 was noted. Generalized gingival hyperplasia was evident. Based upon the history and presence of maggots, provisional diagnosis of oral myiasis and amlodipine induced gingival hyperplasia was given. Radiographic examination revealed severe periodontal bone loss in relation to 11 and 21.

The maggots were mechanically removed with exploration and curettage after application of turpentine oil (Figs. 3 and 4). These were identified as larvae of the common housefly,



**Fig. 4.** Intraoral photograph seven days post removal of maggots.



**Fig. 5.** Intraoral photograph postoperative follow-up after 1 month.

Cleaning and debridement of wound was done. Irrigation with normal saline and povidone iodine was performed. Under antibiotic coverage with oral penicillin, the patient underwent debridement again until the maggots were completely removed. Extractions of mobile maxillary incisors were done. After one month follow-up there was complete healing of the lesion (Fig. 5).

Treatment of Amlodipine induced generalized gingival hyperplasia is generally targeted on drug substitution and effective control of local inflammatory factors such as plaque and calculus. Maintenance of oral hygiene and gingivectomy as indicated was planned for this patient.

## Discussion

Oral myiasis is a rare clinical condition seen among the rural population living in close proximity to livestock and an environment favoring the flies [7].

Pre-disposing factors for myiasis may be medical conditions such as diabetes mellitus, psychiatric illness, leprosy, mental retardation, and patients with an open wound, those who are mouth-breathers, alcoholic, senile or the hemiplegic. In the present case, diabetes mellitus, hemiplegia, alcoholism, poor oral hygiene, incompetent lips with mouth breathing and amlodipine induced gingival hyperplasia were the probable predisposing factors in the development of oral myiasis.

The anterior part of the oral cavity including both jaws and the palate is commonly affected by oral myiasis suggesting direct inoculation of tissues [2]. This could be precipitated by incompetent lips with mouth breathing and poor oral hygiene which were possible predisposing factors for larval infestation in the present case. The present case was diagnosed as oral myiasis with amlodipine induced gingival hyperplasia and this association is very rare. This gingival hyperplasia may lead to pseudo-pocket formation which may lead to poor oral hygiene. Patient had mouth breathing habit and incompetent lips. Patient may not be able to keep his mouth closed due to incompetent lips and of protecting herself from flies; subsequently possibly deposited larvae in the pseudo-pockets.

Clinically, oral myiasis may present as oral mucosal swelling, gingival inflammation, laceration, ulceration, periodontal disease, non-healing extraction wound.

The treatment of myiasis comprises of local and systemic measures. Local measures consist of topical application of turpentine oil, mineral oil, chloroform, ethyl chloride, or mercuric chloride followed by manual removal of the larvae and surgical debridement [8]. Systemic treatment includes broad-spectrum antibiotics especially when the wound is secondarily infected. In the present case, debridement with turpentine oil and irrigation with normal saline and povidone iodine was done and mechanical removal of maggots and antibiotic coverage with oral penicillin was used for the treatment. Larval rupture or larvae left in the lesion may cause foreign body reaction. Extraction of mobile incisor was done in addition to debridement. Healing response of surgical wound was very good. Patient was planned for management of gingival hyperplasia for maintenance of oral hygiene.

## Conclusion

This case report provides interesting information about predisposing factors, clinical features and management of oral myiasis that could help clinicians in the diagnosis and management of this condition.

**Conflicts of interests:** The authors had no conflict of interests.

## References

1. Kumar SL, Manuel S, John TV, Sivan MP. Extensive gingival myiasis – diagnosis, treatment, and prevention. *J Oral Maxillofac Pathol* 2011;15:340–343.

2. Shikha S, Prasad Guru R, Ashutoshdutt P, Meenakshi S. Oral myiasis: a rare case report and literature review. *J Dent (Tehran)* 2015;12:456–459.
3. Droma EB, Wilamowski A, Schnur H, Yarom N, Scheuer E, Schwartz E. Oral myiasis: a case report and literature review. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2007;103:92–96.
4. De Arruda JAA, Silva LVO, Silva PUJ, Figueiredo EL, Callou G, Mesquita RA, *et al.* Head and neck myiasis: a case series and review of the literature. *Oral Surg Oral Med Oral Pathol Oral Radiol* 2017;124:e249–e256.
5. Abdo EN, Sette-Dias AC, Comunian CR, Dutra CE, Aguiar EG. Oral myiasis: a case report. *Med Oral Patol Oral Cir Bucal* 2006;11:E130–E131.
6. Bhagawati BT, Gupta M, Singh S. Oral myiasis: a rare entity. *Eur J Gen Dent* 2013;2:312–314.
7. Kumar GV, Sowmya G, Shivananda S. Chrysomyabeziana oral myiasis. *J Glob Infect Dis* 2011;3:393–395.
8. Aggarwal A, Daniel MJ, Shetty RS, Kumar BN, Sumalatha CH, Srikanth E, Rai S, *et al.* Oral myiasis caused by chrysomyabeziana in anterior maxilla. *Case Rep Dent* 2014;2014:518427.