

Primary Oral Myiasis Due to *Chrysomya bezziana* Treated with Ivermectin. A Case Report

Akhilesh Sharma* / Amitha Hedge**

*Primary oral myiasis due to *Chrysomya bezziana* is a rare condition caused by invasion of tissues by larvae of the flies. A case of Oral myiasis is presented in a 12 year old boy with neuro-degenerative disease with seizures. Intra orally, a soft tissue pocket in the left buccal mucosa and a pocket under the palatal mucosa was seen containing maggots. Extra orally indurated erythematous swelling was present near the commisure of the mouth. Predisposing factors identified in the present case were mouth breathing, incompetent lips, low socioeconomic condition, malnutrition, and inability of the child to perform daily activities due to his neuro-degenerative disease. Treatment consisted of manual removal of maggots following irrigation and application of turpentine oil along with a single dose Ivermectin 3 mg that was given systemically. Complete healing of the lesion was observed within 10 days without any recurrence for a follow up period of 1 year. Medical personnel taking care of old / debilitated / unconscious patients need to bear in mind the possibility of *Chrysomya bezziana* infestation in them.*

Keywords: *Chrysomya bezziana*, Oral myiasis, Ivermectin

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INTRODUCTION

The term myiasis coined by Hope¹ in 1840 was derived from Greek word “myia” meaning fly and was defined by Zumpt². Flies of the order Diptera are responsible for myiasis, the commonly implicated genuses being *sarcophaga* and *chorysoma*.^{3,4}

Myiasis can be classified clinically as primary and secondary myiasis. Based on condition of involved tissue, myiasis can be classified into accidental myiasis, semi-specific myiasis and obligatory myiasis.⁵ Based on anatomic sites affected myiasis is subdivided into cutaneous myiasis, myiasis of external orifices (aural, ocular, nasal, oral, vaginal and anal) and myiasis of internal organs (intestinal and urinary).⁶

Oral myiasis was first described by Laurence⁷ in 1909. Cases of oral myiasis reported in literature are mainly from the developing countries^{3,4,8} and very rarely reported from western developed countries.⁹

Case Report

This is a case of 12 year old boy with neurodegenerative

disorder. The patient was admitted to intensive care unit in an unconscious state with Glassgow Coma Scale of 7. Nasogastric tube was placed for feeding. He was apparently malnourished and came from a family with low socioeconomic status.

On extra oral examination, a reddish indurated area over the left commissural region with an area of small ulceration was observed. Intra orally, a soft tissue pocket in the left buccal mucosa was seen with maggots in it and a pocket under the palatal mucosa was seen containing few maggots (Figs 1 and 2). Routine hematological tests showed results within the normal range.

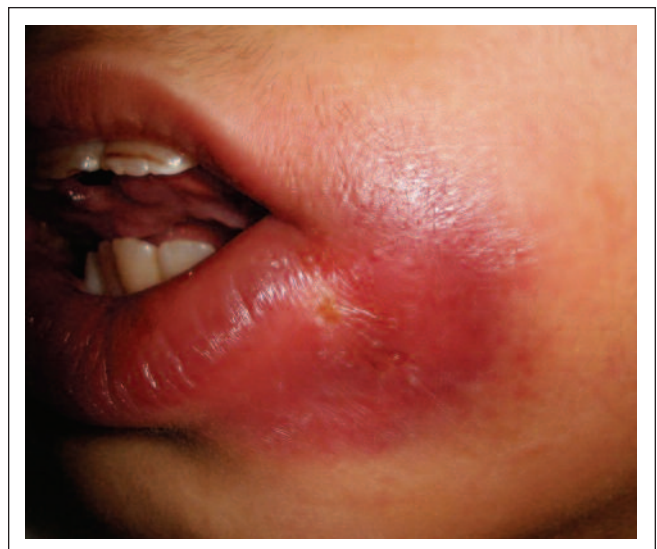


Figure 1. Erythematous area extraorally

* Dr. Akhilesh Sharma, Senior Lecturer, Department of Pedodontics and Preventive Children Dentistry, Dayanand Sagar College of Dental Sciences

** Dr. Amitha M Hegde, Professor and head of the department, Department of Pedodontics and Preventive Children Dentistry, A.B.Shetty Memorial Institute of Dental Sciences

Send all correspondence to: Dr. Akhilesh Sharma, Brij kutir, #328, 36th A cross, 9th main 5th block, Jayanagar, Bangalore 560041, Karnataka, India

Email: akhilhere@yahoo.com

The face and oral cavity was cleaned with an antiseptic solution. A gauze soaked in 10% hydrogen peroxide was placed at the entrance of the lesion. Upon retraction of buccal mucosa several larvae were seen moving inside the lesion. (Fig 3) They were segmented, cylindrical, headless worms, grayish white in colour. The infected sites corresponded to maxillary anterior region and left buccal mucosa of the cheek suggesting the existence of tunneling produced by the larvae. The situation led to the diagnosis of oral myiasis.

The maggots were removed manually with sterilized



Figure 2. Burrowing of buccal mucosa by maggots



Figure 3. Maggots resurfacing on application of turpentine oil

surgical forceps after application of turpentine oil on the buccal mucosal pocket and the anterior palate. A total of 112 maggots were removed over a period of 3 days. (Fig 4) In addition single dose Ivermectin 3 mg was given systemically and was found to be effective in controlling any residual infestation.

The larvae collected were identified by the entomologist as larvae of *C bezziana*. The larvae measured around 8–14mm in length and 2-4mm in diameter. The lesion on the buccal mucosa and the left commissural region healed well by the fourth day (Fig 5) and complete resolution was seen by tenth day. Further no larvae were found in the oral cavity with a follow up period of 1 year.

DISCUSSION

Myiasis of the oral cavity is usually caused by flies of the order diptera. The larvae of diptera normally develop in decaying tissues; however there have been reports of infesta-



Figure 4. Larvae of *C bezziana*



Figure 5: Post operative healing day 3

tion of healthy tissues. Cases of oral myiasis have been reported in patients with lacerated lips following epileptic seizures, in children with incompetent lips and thumb sucking habits,¹⁰ in patients with advanced periodontal disease,¹¹ at sites of tooth extraction,¹² in a fungating carcinoma of buccal mucosa,⁶ and in a patient with tetanus who had his mouth propped open to maintain his airway.¹³ Human cases of *C Bezziana* are uncommon.¹⁴ In the present case; the causative organism was *C Bezziana*.

The predisposing factors identified in the present case were low socioeconomic status, poor living conditions from rural area, and neurodegenerative disorder with seizures, incompetent lips, mouth breathing and malnourishment.^{15,16}

Oil of turpentine was used for local application at the site of lesion, which induced the movement of maggots outside the lesion. Ether, chloroform, calomel, iodoform, olive oil and phenol have also been used for the same purpose in literature.¹⁷ Complete healing of the lesion was achieved with the additional use of Ivermectin.

Ivermectin is a semi synthetic macrolide antibiotic which acts by blocking the nerve impulses on nerve endings through the release of gamma amino butyric acid (GABA) leading to palsy and death. It has been found to be safe for human use.^{18,19} Topical and oral use of Ivermectin for treatment of oral myiasis has been found in literature.^{16,17,20,21} Thus Ivermectin can be recommended as an adjunctive treatment along with the manual removal of maggots for oral myiasis. It also prevents further involvement of deeper tissues.²²

Prevention of oral myiasis includes good community sanitation and maintenance of good individual and environmental hygiene. Wounds should not be left open and oral hygiene care of medically compromised and children with special health care needs should be monitored by an attendant/guardian or parent.

CONCLUSION

Proper hygiene maintenance, early diagnosis and manual removal of maggots with antibiotic therapy helps in early resolution and minimal destruction of the oral tissues.

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