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## **ORAL MYIASIS – A CASE REPORT**

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**ABSTRACT:**

Oral myiasis is a rare disease caused by larvae of certain dipteran flies. A case of oral myiasis caused by *chrysomya bezziana*, in the maxillary anterior region in a 20 year old mentally challenged female patient is reported. Manual removal of the larvae by topical application of turpentine oil, surgical debridement of the oral wound, followed by oral therapy with broad spectrum antibiotics were used to manage the patient.

**Key words:** Oral myiasis, *Chrysomya bezziana*

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**INTRODUCTION:**

The term myiasis is derived from Latin word 'muia' which means fly and 'iasis' means disease. The term was coined by F.W.Hope in 1840 [1]. Myiasis may also be defined as the infestation of live human and vertebrate animals by dipterous larva, which at least for certain period feeds on dead or living tissue of the host, liquid substances or ingested food [2]. It frequently occurs in rural areas infecting livestock and pets such as dogs and cats [2]. It has been reported in some unhealthy individuals in third world countries [3].

Incidence of oral myiasis is comparatively less than that of cutaneous myiasis because oral tissues are not permanently exposed to external environment [4]. Some cases of oral myiasis have been reported to occur following dental extractions, nasocomial infection, in drug addicts, in psychiatric patients [5, 6] and conditions that cause prolonged mouth opening like mouth breathing during sleep, senility, alcoholism and mental retardation [7]. The flies are attracted to the oral cavity due to neglected oral hygiene or accumulation of fermented food debris [5 -7].

Persistent mouth opening facilitates the deposition of the eggs by the adult fly [5]. Subtropical climate and poor oral hygiene are conducive for breeding of the fly [8].

### CASE REPORT:

A 20-year-old mentally challenged female reported to the out-patient with swelling of upper lip and left side of the face and presence of worms in the mouth from past 2 days. The patient was accompanied by her parents. The patient was of low socio-economic status, poorly built and apprehensive.

Extra oral examination revealed diffuse swelling of upper lip and left maxilla. Intra oral examination revealed necrotic area in the maxillary anterior region involving the vestibular sulcus in the maxillary central incisor region, measuring about 2.0 cm × 1.0 cm (Fig- 1); maggots were seen in the necrotic area. Based on the history and presence of maggots, a provisional diagnosis of oral myiasis was made. Cotton bud impregnated with turpentine oil was placed in the necrotic area for approximately 10 minutes. About 10-12 maggots were manually removed with tissue holding forceps and taken for entomological examination. The area was

then washed with saline followed by irrigation with betadine.

Broad spectrum antibiotics amoxicillin with clauvalinic acid and ibuprofen were prescribed. The same procedure was repeated for two more days. Edema had considerably reduced after two days. Maggots were tapered in shape, creamy white in colour their segments giving the appearance of transverse rows, with brown black tip anteriorly and were identified as larvae of *Chrysomya bezziana* (botfly) by an entomologist. The patient was reviewed after two weeks and the results were satisfactory (Fig 2).

### DISCUSSION:

Myiasis is caused by member of Diptera fly family that lays egg on food, necrotic tissue, open wounds and unbroken skin or tissue [9]. *Chrysomya bezziana*, the old world screw-worm fly, is the cause of obligatory myiasis. The species is widely distributed throughout South-East Asia, China, Indian subcontinent, tropical Africa, and Papua New Guinea [10 - 12]. Human myiasis due to *Chrysomya bezziana* is very rare; it was first reported in Hong Kong in 2003 [12].



Fig. 1: Necrotic area present in maxillary vestibule in the central incisors region.



Fig. 2: Healed maxillary anterior region two weeks after the treatment.

The adult female lays egg on live mammals. The site of infestations is usually superficial wound, open sores and mucous membranes in the body orifices such as mouth, ear and nose [13]. The eggs hatch within 24 hours and the resulting larvae burrow into the host's tissues head downwards into the wound in a characteristic screw-like fashion, feeding on living tissue. The larvae release toxins to destroy the host tissue. The larvae complete their developments in 5-7 days, after which they then wriggle out of the wound and fall to the ground to pupate [3, 6, 14].

The standard treatment consists of topical application of turpentine oil, mineral oil, chloroform, ethyl chloride or mercuric chloride that make the larvae to come out followed by

manual removal of the larvae and surgical debridement [5]. Systemic therapy of Ivermectin given orally in just one dose of 150-200mg/kg body weight and repeated after 24 hours has been found to be effective in several cases. It acts by blocking the nerve endings through the release of gamma amino butyric acid (GABA) leading to palsy and death of the parasite [12, 15]. The cases of oral myiasis with no medical systemic complications recover completely on removal of the larvae [16].

Infestations with *Chrysomya bezziana* differ from other maggot infestations because there is tissue invasion even in absence of any pre-existing necrotic tissue. The *Chrysomya bezziana* maggots may cause serious and permanent tissue damage and extremely

infested wounds can even lead to death of the host in absence of proper treatment. It is usually the people with mental and physical disability who are affected because of the difficulties in maintaining good oral hygiene due to poor manual dexterity [5]. Special care needs to be taken by the parents/guardians of these patients as they are unable to maintain their basic oral hygiene.

### CONCLUSION:

As the old saying goes “prevention is better than cure”, the disease should be prevented by controlling fly population, maintaining good oral and personal hygiene such as reducing the decomposition odour, cleaning and covering the wounds and by educating the susceptible population where basic sanitation is meagre. The personal taking care of special people is advised to ensure personal hygiene and adopt suitable practices to prevent the occurrences of infestations.

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