

## **Case Report**

# **A Case of Gingival Myiasis Caused by *Wohlfahrtia magnifica***

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### **Abstract**

A gingival myiasis in a four years old mental retarded boy with anorexia and weight loss is presented from southern part of Iran. Entomological studies on larvae showed the larvae as *Wohlfahrtia magnifica* which is a rare causative agent of gingival myiasis.

**Keywords:** *Wohlfahrtia magnifica*, Myiasis, Gingival, Iran

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### **Introduction**

Myiasis broadly includes interaction between flies and warm blooded hosts. It is usually involves infestation by larval or pupal stages of the flies in the tissues of human and other vertebrate animals (Larry and Millikan 1999). Infestation with fly larvae may occur when flies deposit eggs or first-stage larvae on the body or its apertures. The clinical aspects of myiasis vary with the regions affected, with the species of fly involved and with the number of maggots present (John and Petri 2006). Myiasis is more prevalent in tropical regions. In the present paper a human case with gingival myiasis due to *W.magnifica* is presented from south part of Iran.

### **Case report**

An Iranian four years old mental retarded boy residing in Bardestan Village near the

Dayyer Port from Bushehr Province of Iran, was referred to a number of physicians and dentists because of his anorexia and weight loss. Finally, superior gingivitis and losing the central and lateral teeth (21, 12) were observed. After central tooth extraction, larvae were observed in dental cavity. The superior gingiva was exposed and a total of 40 larvae were extracted from this area.

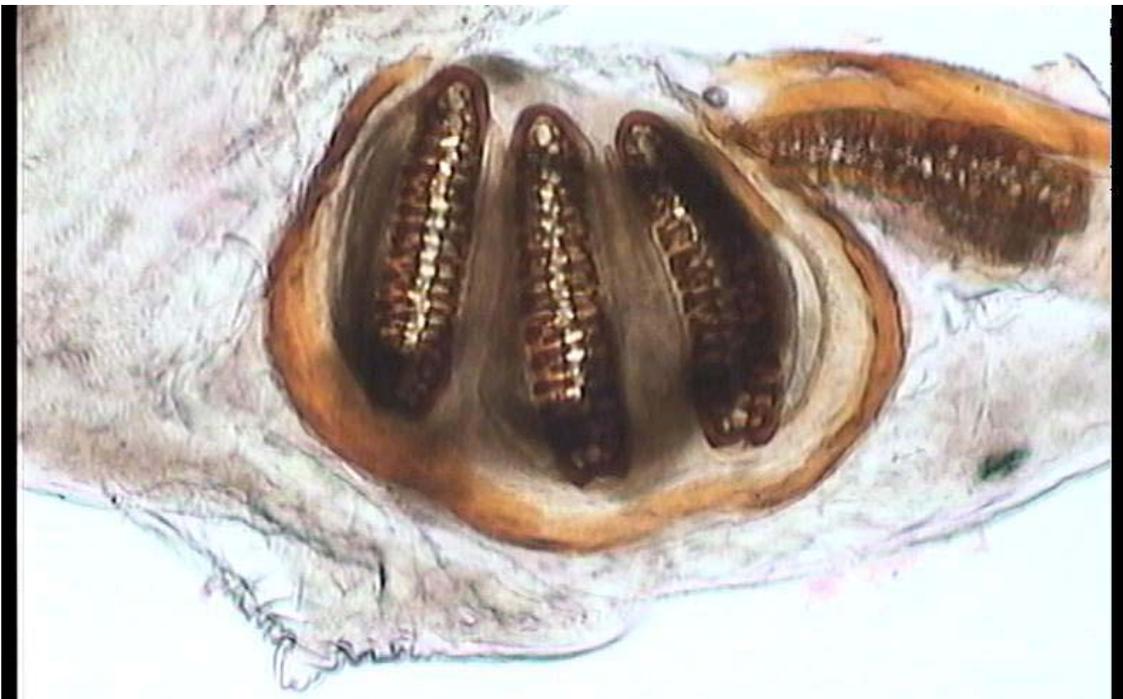
The larvae were sent to Department of Parasitology and Mycology, School of Medicine, Shiraz University of Medical Sciences. The larva was identified according to the key of the third stage of larva of some of the muscoid flies ( Belding 1965); such that the larvae was muscoid, slender shaped with posterior spiracle with button area very slightly chitinized and the ring incomplete as well as inner slits sloping. Entomological studies on larvae including the character of posterior spiracles showed the larvae as *W. magnifica* ( Fig. 1 -2 ).

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**Fig. 1.** *Wohlfahrtia magnifica* whole larva detected from gingival cavity.



**Fig. 2.** Posterior spiracle of the larva with button area very slightly chitinized and the ring incomplete

## Discussion

Myiasis with different causative agents is common in domestic and wild mammals of all over the world (John and Petri 2006). The most important agent of myiasis in the genus *Wohlfahrtia* is *W. magnifica*, an obligate parasite of warm-blooded vertebrates in south-eastern Europe, southern and Asiatic Russia, the Near East and North Africa (Zumpt 1965). The present case had anorexia and weight loss with mental retardation and possible mouth breathing. In the mean time he was from a hot region which is suitable for flies. On the other hand, some of his teeth had been lost. These criteria make the possibility of infection with *W. magnifica* which deposited its larvae in the ear, eyes or nose causing an extensive destruction of healthy tissues (Noutsis and Millikan 1994).

Some 120 to 170 larvae are deposited near the wounds or body openings of humans and other animals. The larvae feed and mature in five to seven days and then leave the wound for pupation (Zumpt 1965). *W. magnifica* has been reported as the cause of otitis (Fawzy 1991), ophthalmomyiasis (Morsy and Farrag 1991), vulvar myiasis (Delir et al. 1999), wound myiasis (Iori et al. 1999, Lmimouni et al. 2004) and cutaneous myiasis (Kokcam and Saki 2005). In addition, *W. magnifica* has been previously reported in gingiva and dental cavity (Sahba 1981, Athari and Fallah 1993, Tang et al. 2003, Dorma et al. 2007) as well as orotrachea (Ciftcioglu et al. 1997).

Alcoholism, senility, mental retardation, hemiplegia and mouth breathing during sleep may facilitate the development of oral myiasis (Anil et al. 1989). However, the present case could be infected during mouth breathing.

Necrotic tissues, present in advanced periodontal diseases will form a good substrate in which the fly can lay its eggs (Zelster and Lutsmann 1988).

The treatment of choice is removal of larvae from the affected areas. Proper oral hygiene

is essential to ensure against oral myiasis (Gursel et al. 2002).

Greater awareness on the part of physicians about clinical symptoms and relevant exposure histories would improve the expediency and efficacy of treatment for patients with myiasis (Zygotiene et al. 2006).

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