

A Strange Gingival Orifice in an Infant: A Case of Oral Myiasis

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Myiasis is a parasitic infection of humans and animals caused by dipterous larvae and is often seen in rural areas. For the first time in the literature as a case of gingival myiasis in an 18-month-old healthy child with good oral hygiene is reported. This case presents the clinical and histopathologic features of oral myiasis. The patient had a swelling in the upper lip for three days and a perforation in the gingiva. After mechanical removal of larvae intraoral symptoms resolved within six days. The larva was identified as Wohlfahrtia magnifica according to the histopathologic evaluation. Dentists working in rural areas should be aware of this very rare condition and its treatment.

Keywords: wohlfahrtia magnifica, infant/parasitology, larvae

INTRODUCTION

Myiasis is a parasitic infection of humans, pets and farm animals with dipterous larvae which, feed on the host's tissue or ingested food.^{1,2} In terms of the relationships between host and parasite myiasis classified as obligatory (larvae affect undamaged skin), semi-specific (the larvae are laid on necrotic tissue in wounds) or accidental (larvae ingested along with food).^{3,4}

According to the anatomical localization of the myiasis larvae in hosts, it can also be classified as auricular, cutaneous, gastrointestinal, ophthalmic, urogenital, and oral myiasis.⁵ Oral myiasis has been reported in children with predisposing factors such as poor oral hygiene, caries, lip incompetence, dentoalveolar trauma, crowding of teeth, mental retardation, systemic diseases.⁶⁻¹⁰

We present a novel case of gingival myiasis in an 18-month old boy.

Case Report

An 18-month-old boy referred to department of Pediatric Dentistry, Faculty of Dentistry, Ataturk University with a swollen upper lip complaint. In anamnesis taken from the patient's parent, it was learned that the upper lip started with swelling three days before contacting the clinic and the next day the color of the gum turned black, and the following day the gum perforated. He was healthy and had no other systemic disease. The patient's dental age was consistent with his chronological age. Examination of oral cavity revealed good oral hygiene, no signs of caries, swelling of the upper lip and a lesion similar to the sinus tract in the gingival of the upper right central incisor.

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In the clinical examination performed with the pre-diagnosis of abscess or root / bone fragment as a sequel of dental trauma, it was observed that the teeth were vital and not carious, and there was no radiographic finding. Within ten minutes of the examination while the child was fully awake, immediately after the maggot moving out his head from the lesion, it was held with tweezers and removed mechanically, and a diagnosis of gingival myiasis was made (Fig.1).

The presence of any other maggots was checked by waiting after ethanol administration as an irritating agent, then the lesion was washed with saline solution. The patient was prescribed augmentin 200 mg as prophylactic regimen. The larva was immediately sent to the Parasitology Laboratory of Veterinary Faculty, Ataturk

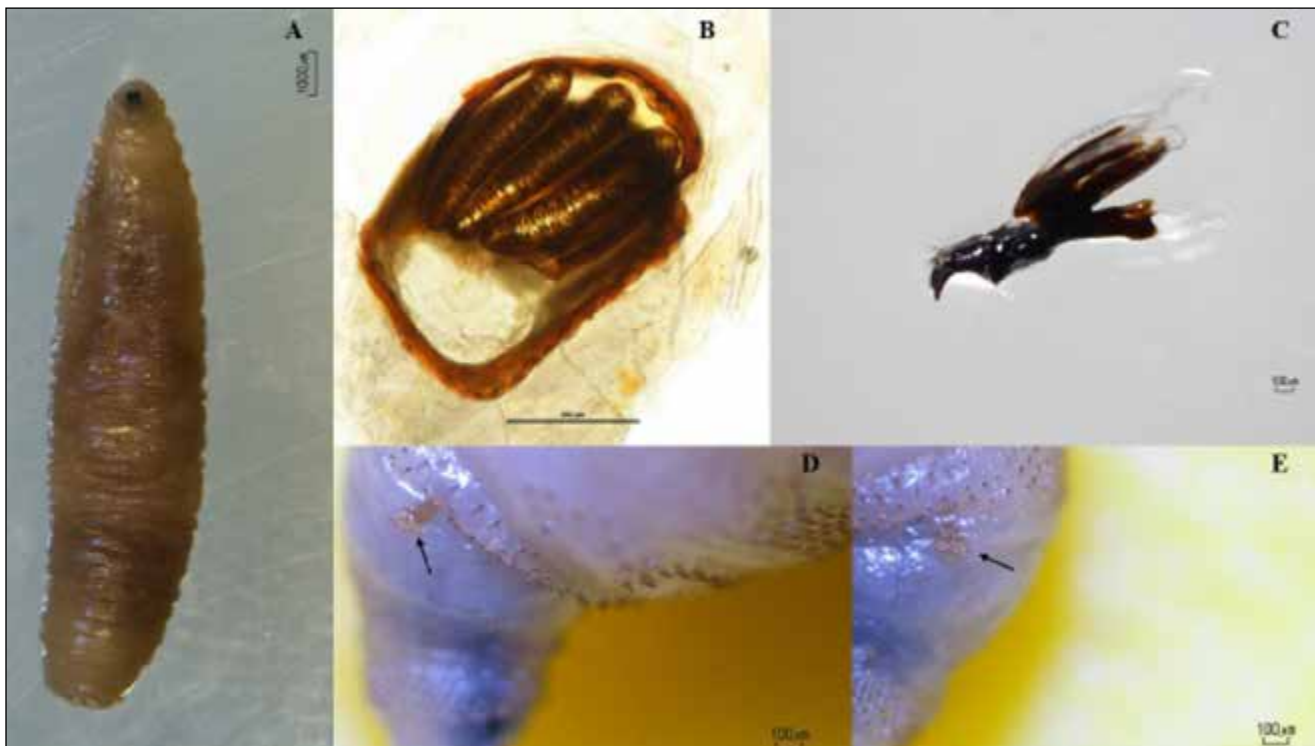
University. Follow-up examination two days later revealed a decrease in the upper lips swelling. After six days, complete healing of the lesion was noted.

The morphology of the larva was evaluated by using stereo microscope (Nikon SMZ 745T, Japan). The body length of the larva was about 1,5 cm and it was evaluated as third instar larva (Fig.2A; B). The larva was identified as *Wohlfahrtia magnifica* according to the anterior spiracles' branches, the peritremal ring of the posterior spiracles, and the cephalo-pharyngeal skeleton's shape (in Fig.2C) at the species level. The anterior spiracles had four and five branches, respectively (Fig.2D; E).

Figure 1. The larva and the orifice from which it was removed from the gingiva.



Figure 2. A) Larva B) Posterior peritreme C) Cephalo-pharyngeal skeleton D-E) Anterior spiracles (Arrow indicates branches)



DISCUSSION

The main factors associated with myiasis are residence in rural or tropical areas, low socioeconomic status, systemic problems, neurological disability, malnutrition, absence of lip sealing, mouth breathing, poor oral hygiene, periodontal diseases and traumas.⁵ In the literature, the ages of patients affected by myiasis range from 2-96 and it is usually seen in the second decade of life.⁶ In this article, it is presented for the first time in the literature as a case of myiasis in an 18-month-old patient with good oral hygiene.

Myiasis occurs in humans with the release of fly eggs in human tissues or by the ingestion of infected food such as meat. After hatching within 15 hours, the larvae develop in the warm, and humid environment. The larvae adhere to the fibrous capsule, which formed as a reaction to tissue destruction and cavitation in the oral environment. Growing larvae turn into pre-pupa within 4-7 days, and after one week they become pupa and fall through small orifices to surrounding tissues. The fly turns into an adult within 24 hours, and by infecting a new host it completes this cycle. In our case, the presence of the lesion in the anterior part of the oral cavity suggests that the tissues had direct contact with the fly larvae.¹¹⁻¹³ It is recommended to use repellents, mosquito nets to prevent larvae in homes. In addition, it may be advisable to prevent water accumulation in discarded tin cans, bottles or vehicle tires etc. in outdoor environments to prevent some larva species from breeding in stagnant water.¹⁴

Although there is no routine treatment option for myiasis, first, manual removal of the larvae and necrotic tissue debridement is performed. Then, the larva is removed from the infected area by application of an asphyxiating/irritating agent (ether, chloroform, iodoform, turpentine oil, eucalyptus oil, olive oil, varnish, and lidocaine spray) to the wound. Next, lesion site is washed with saline or chlorhexidine. Finally, antibiotics are prescribed prophylactically. Also, the use of ivermectin is considered when larvae in deep wounds or small-sized developing larvae cannot be completely mechanically removed.^{2, 15, 16}

In this case, antibiotic prophylaxis following mechanical removal was sufficient. Since the larva is attached to the tissue with its mouth, there is a possibility of breaking the larva during mechanical removal. In cases with a pre-diagnosis of larvae, mechanical removal of the larvae after using an irritation agent initially would be a more reliable approach.

Myiasis can be confused with abscess or root / bone fragment, or dental trauma sequelae in clinical examination. To the best of our knowledge, this is the first reported case of myiasis in a newborn with good oral hygiene. Clinicians should be aware of this very rare condition in children and should control it with appropriate treatment methods.

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