Oral Myiasis in A Child Due to Wohlfahrtia Magnifica: Original Image

Bir Çocukta Görülen ve Türü "Wohlfahrtia Magnifica" Olan Oral Miyaz

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ABSTRACT Myiasis is a rare condition caused by the invasion of tissues by the larvae of flies. Many cases of myiasis involving various human organs have been reported. Oral myiasis is very rare in healthy persons but occurs mainly in the tropics and is associated with inadequate public and personal hygiene. We present a case of oral myiasis in a healthy 4-year-old boy. The diagnosis was based on the characteristic clinical features and the visualization of wriggling larvae. The larvae were identified as Wohlfahrtia magnifica (Family Sarcophagidae). Treatment consisted of manual removal of the larvae, one by one, with the help of clinical forceps, local debridement of the labial gingiva and oral hygiene practice. The patient was followed-up for 3 months and healing was uneventful.

Key Words: Myiasis; parasitology; mouth mucosa

ÖZET Miyaz uçan larvaların doku invazyonuna sebep olduğu nadir bir durumdur. Farklı insan organlarını etkileyen birçok miyaz olgusu bildirilmiştir. Sağlıklı bireylerde oral miyaz oldukça nadirdir ve temelde tropikal bölgelerde görülür ve yetersiz toplum ve birey hijyeni ile ilişkilidir. Biz 4 yaşındaki sağlıklı bir erkek çocukta mevcut olan oral miyaz olgusunu sunuyoruz. Teşhis karakteristik klinik özelliklere ve solucan tarzı larvaların görsel varlığına dayalı olarak yapıldı. Larvalar Wohlfahrtia magnifica (Sarcophagidae ailesine ait) olarak tanımlandı. Tedavi klinik forsepslerin yardımı ile tek tek larvaların elle kaldırılması, dudak dişetinin lokal debridmanı ve ağız temizliğini kapsadı. Hasta 3 ay takip edildi ve sorunsuz iyileşti.

Anahtar Kelimeler Sinek larvası; parazitoloji; ağız mukozası

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The term myiasis derived from the Greek word myia meaning fly, was coined by Hope in 1840. It is the infestation of living body tissues of animals by fly larvae. In 1965, Zumpt described it as the infestation of live human and vertebrate animals with dipterous larvae, which at least for a certain period feed on the host's dead or living tissue, liquid body substances or ingested food.[1,2]

In orofacial myiasis, soft tissues of the oral cavity are invaded by parasitic larvae of flies. Lawrance first described oral myiasis in 1909.[1,2] Since then, it has been reported mainly from developing countries such as Asian countries and very rarely from developed Western countries.[1,2] The condition can be completely benign and asymptomatic, result in mild to acute pain, or in extreme cases cause death of the patient.[3]

FIGURE 1: Ten visible living larvae.

FIGURE 2: Size of the larva.

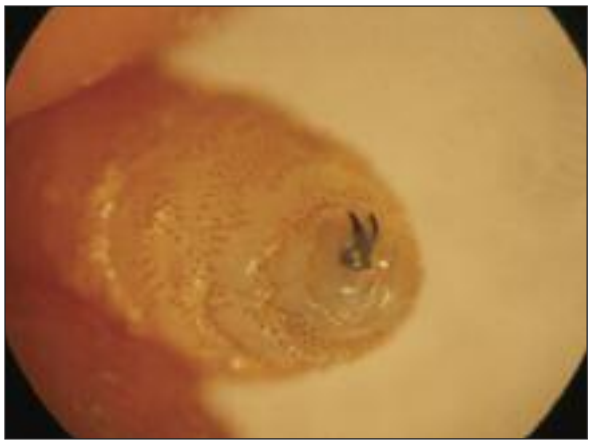

FIGURE 3: Stereo-microscobic image of the larva of Wohlfahrtia magnifica's mouth-hook. (3rd instars larva).

FIGURE 4: Stereo-microscopic image of Wohlfahrtia magnifica's posterior peritremic.

The present paper reports a case of oral myiasis in the anterior region of the maxilla.

CASE REPORT

A 4-year-old male with parents was referred to the department of Oral and Maxillofacial Surgery with complaints of swelling of the upper lip accompanied by an itching sensation and a fetid odor for about 3 days. His parents also noticed worm-like structures in the maxillary anterior teeth area. Hematological investigations and body temperature were normal. The patient's medical and family histories were non-contributory.

FIGURE 5: Light microscopic image 3rd instars larva of Wohlfahrtia magnifica's cephalophayngeal skeleton.

Examination of the oral cavity revealed poor oral hygiene. The buccal gingiva of the upper deciduous central incisors formed deep pockets containing about 10 visible living maggots (Figure 1). The relevant teeth were vital and showed no evidence of caries. Radiographic examination (periapical and occlusal radiography) revealed no changes in the underlying bone. The larvae were manually removed with the help of clinical forceps, and the area was cleaned with sterile saline solution. Then local debridement of the labial gingiva and sculling of teeth were performed under local anesthesia.

DESCRIPTION

All maggots were fixed in 70% alcohol after collection. The larval specimens were sent to the Atatürk University, Faculty of Medicine, Laboratory of Medical Microbiology. Morphological examination of the larvae revealed that they were members of the family Sarcophagidae. For definitive identification of the larvae, one was sent to the Ankara University, Faculty of Veterinary Medicine, Department of Parasitology. The sizes of the larvae measured by stereo-microscopic (Zeiss- Stemi 2000-C) examination differed between 0.5-1.2 cm in length and 0.1-0.3 cm in width. Figure 2 shows an image of a larva. The cephalopharygeal skeleton and posterior peritremi of the larvae was dissected under the stereo-microscope (Figure 3, 4). For detailed investigation of the organelles, preparations were made with Canadian's Balsam and were examined under light microscope (Nikon eclipse 80i) (Figure 5).

Microscopic examination of the cephalopharygeal skeleton and the posterior peritremi revealed that the maggot was a third phase larvae of the fly Wohlfahrtia magnifica (family Sarcophagidae).[4-6]

DISCUSSION

Predisposing factors for oral myiasis are extraction wounds, poor oral hygiene, senility, mouth breathing during sleep, suppurative lesions, necrotic tissues, diabetes and perivascular diseases mainly in the elderly, severe halitosis, alcoholism, mental retardation, and hemiplegia.[4-6] Oral myiasis is very rare in healthy persons; it is usually associated with inadequate public and personal hygiene. Most cases were reported to occur in the summer. Individuals in colder climates are much less affected than those living in tropical and subtropical areas.[4] Our case lived in Iğdır, which is located in the northeast part of Turkey. Although the temperature is over the average of the region in Iğdır, it cannot be considered a tropical climate due to low precipitation. However, the child is a member of a family whose area of interest is livestock farming and who live in inadequate environmental conditions and this may account for the infestation as well as poor oral hygiene practices.

Oral myiasis can be primary or occasionally secondary to nasal involvement when the maggots penetrate to the paranasal sinuses or palate. It rarely involves the eyes, nose, paranasal sinuses, urogenital tract or rectum.[4] Oral myiasis affects mainly the anterior mouth as in the case reported here.

Flies causing myiasis belong to the family of Diptera and its seven different species (Calliphoridae, Sarcophagidae, Oestridae, Hypodermatidae, Gasterophylidae, Glossinidae, and Muscidae) are known to invade the skin and body cavities, such as the nasal fossae and ears, and cause odoriferous discharges.[4]

The traditional management for myiasis is the mechanical removal of the maggots. In case of multiple larvae and in advanced stages of development and tissue destruction, local application of several substances such as ether, chloroform, olive oil, calomel, iodoform, phenol were used to ensure complete removal of all larvae. Systemic ivermectin, (semi-synthetic macrolide antibiotic) may give favorable results in more severe cases.[2,6]

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