

A Rare Case of Oral Myiasis Caused by *Lucilia sericata* in an Intubated Patient from Southeast Turkey

Türkiye'nin Güneydoğusunda Entübe Hastada Lucilia sericata'nın Neden Olduğu Nadir Bir Oral Miyazis Olgusu

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ABSTRACT

The infestation of human and animal tissues or organs by the larvae of flies is collectively termed as myiasis. The occurrence of oral myiasis is analogously low compared with cutaneous myiasis as oral tissues are not habitually exposed to the external environment. Oral myiasis predominantly affects the periodontium, buccal and/or palatal mucosa, lips, and tongue. The prevalence of myiasis is substantially higher in tropical and subtropical regions, especially in developing countries. This research adduces a case of oral myiasis related to palatal gingiva in a young boy who was intubated due to pneumonia.

Keywords: Oral myiasis, *Lucilia sericata*, intubated patient

ÖZ

Miyazis, insanların ve hayvanların doku ve organlarının sinek larvaları tarafından istila edilmesi anlamına gelmektedir. Ağız dokusu kalıcı olarak dış ortama maruz kalmadığından, oral miyazis insidansı kutanöz miyazise göre nispeten daha azdır. Oral miyazis en çok periodonsiyumu, bukkal ve/veya damak mukozasını, dudakları ve dili etkiler. Miyazis insidansı özellikle gelişmekte olan ülkelerde, tropikal ve subtropikal bölgelerde daha yüksektir. Burada, pnömoni nedeniyle entübe edilen küçük bir erkek çocukta damak diş etine bağlı bir oral miyazis olgusu sunulmuştur.

Anahtar Kelimeler: Oral miyazis, *Lucilia sericata*, entübe hasta

INTRODUCTION

The term myiasis is the infestation of tissues and organs of humans and animals by the larvae of flies (1). The entomologist Frederick Hope defined the myiasis in the human body (2). Human myiasis is usually seen in intact or damaged skin, but it can also be observed in the ears, nose, eyes, paranasal sinuses, lymph nodes, anus, vagina, and oral cavity (3,4). Incidence of oral myiasis can be seen seldomly due to the oral tissues are not permanently damaged and related to the external environment (5). It mostly affects periodontium, buccal and/or palatal mucosa, lips and tongue (6). Oral myiasis is mostly seen in humid and warm regions especially in developing countries (3). There are a variety of predisposing factors such as low socio-

economic status, malnutrition, drug use, alcoholism, low oral hygiene, facial trauma, open wound, mouth-breathers, mental retardation, senility and medical comorbidities (3). Thirteen fly species were described as a cause of oral myiasis (7). Dos Passos et al. (7) reported that the most frequent species are and *Musca domestica*. There are no standard guidelines for management of oral myiasis. Types of treatment for oral myiasis are removal of larvae with or without topical application of substances such as ether, chloroform, olive oil, iodoform to force the larvae out (8). The use of ivermectin, a macrolide antibiotic was effective in control of oral myiasis (9). We present a case of oral myiasis related to palatal gingiva in a young boy who was intubated due to pneumonia.



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CASE REPORT

A 9-year-old boy was referred to our clinic with a chief of complaint of larvae coming out his mouth. In the medical history, it was found out that the patient was intubated for 14 days due to pneumonia. The mouth of the patient was opened position due to intubation and the oral hygiene was also poor. In intraoral examination, deep periodontal pocket and caries was present in the maxillary incisors (Figure 1). Three maggots were detected in the gingival sulcus of palatal region of central incisors (Figure 2). The maggots were removed and gingival sulcus was irrigated. The patient was instructed to use antibiotics and analgesics. On entomological examination, species *Lucilia sericata* were described (Figures 3, 4). The maggots were defined as *Lucilia sericata* by using light and scanning electron microscopes. The surface of *L. sericata* was coated with tiny short spines which were arranged in distinct bands around the body (10).

DISCUSSION

Myiasis is generally observed in rural areas and predisposing factors include medical conditions mental retardation, patients

with an open wound, mouth-breathers and drunkards (11). Myiasis might be subdivided into primary and secondary. Primary myiasis arises from biophagous larvae) and it is also known as obligatory myiasis. Secondary myiasis arises from the necrobiophagous larvae and it is also known facultative myiasis (12).

In Turkey, Taş Cengiz et al. (13) stated a case of oral myiasis in which five larvae of the family Calliphoridae were located in the maxillary gingiva causing a mild hemorrhage. Additional cases of oral myiasis were stated in the country caused by the species *W. magnifica*, *Sarcophaga* spp., *H. bovis*, and *Calliphora* spp. (14-17). The main symptoms of these cases were gingival lesion, edema, erythema, hemorrhage, lip swelling, and xerostomia (14-17). Arslan et al. (18) reported an oral myiasis in a child in whom 20 maggots were located in the maxillary gingiva and caused edema and erythema.

Dos Passos et al. (7) reported a literature review related to oral myiasis and one of the fly species in oral myiasis was *L. sericata*. This species is a metallic green fly generally called the green-bottle fly. It is a well-known causative agent of fly strike in sheep of the British Isles, South Africa, and New Zealand (19). In Korea, causative agents of human myiasis cases were frequently



Figure 1. In intraoral examination, it can be seen that the patient had a poor oral hygiene



Figure 2. Three maggots are removed from periodontal pocket of palatal region of maxillary incisors

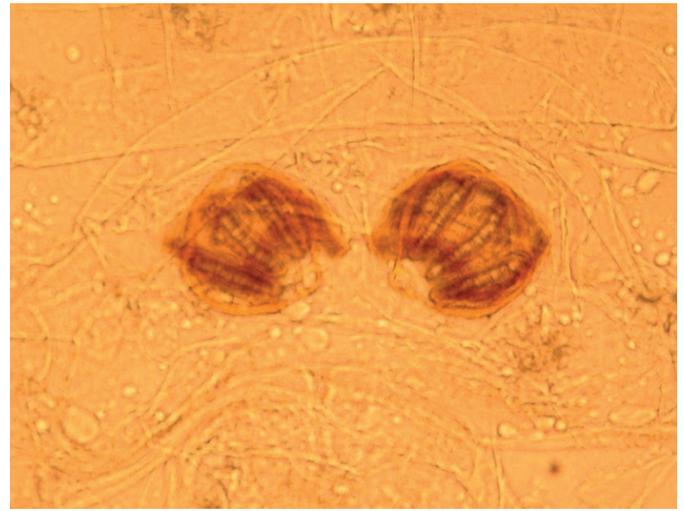


Figure 3. The posterior stigma of third instar larvae of *Lucilia sericata*



Figure 4. Photomicrograph revealing the cephalopharyngeal skeleton of the third instar larva of *Lucilia sericata*

supposed as *L. sericata* or associated with the genus *Lucilia*, with the exception of a case involving *Phormia* spp. (20).

Severity of myiasis is related to location of infestation, lesions, and tissue inflammation. In our case, the lesion was located in the palatal area of maxillary central incisors, involving inoculation of the gingiva. There is no standard protocol for treatment of oral myiasis, but many authors suggested that effective therapeutic choice is to eliminate all larvae and apply surgical debridement with or without asphyxiating substances (7,21). The other treatment modalities are antibiotic therapy, use of ivermectin and analgesics (22). It should be remembered that killing the larvae with any toxic substance/insecticide might have a negative effect, as those which are in the deeper layers of the tissue and are dead would decay and cause additional problems to the patient.

In the present case, we removed the maggots and performed the debridement and irrigation. Broad-spectrum antibiotics and analgesic were prescribed.

CONCLUSION

Oral myiasis is an uncommon condition. It typically affects individuals with low socio-economic status, lack of hygiene habits, and comorbidities.

* Ethics

Informed Consent: As the patient was under the age of 18 consent form was taken from his parents.

Peer-review: Internally peer-reviewed.

* Authorship Contributions

Surgical and Medical Practices: N.L., Concept: N.L., Design: N.L., Data Collection or Processing: M.Y., Analysis or Interpretation: N.L., M.Y., Literature Search: M.Y., Writing: M.Y.

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