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Case Report

Oral myiasis: a case report

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Abstract: Oral myiasis is a rare disease in humans associated with poor oral hygiene, suppurative oral lesions, alcoholism and senility, among other conditions. A case of oral myiasis in a 34-year-old white male with advanced periodontal disease and neurologic deficit is reported. Treatment consisted of manual removal of the larvae, one by one, with the help of clinical forceps and subsequent management of the periodontal disease. (J. Oral Sci. 49, 85-88, 2007)

Keywords: oral myiasis; parasite infection; oral infestation; necrosis.

Introduction

The term myiasis (from the Greek: myi = mosca) refers to infestation of living tissues of animals or humans (1,2) by Diptera larvae (3). Human myiasis is a rare condition (1) that can occur in any part of the globe, but is more common in regions with a warm and humid climate (4). The infestation can strike organs or tissues that are accessible to egg-laying and development of the larvae, which feed on living or necrotic tissue and body fluids, and necrotic lesions provide an ideal substrate (3).

Diabetes and peripheral vascular diseases can be predisposing factors for myiasis, mainly in the elderly, in whom the sites most attacked are the feet and ankles (5). The condition can be completely benign and asymptomatic, result in mild to acute pain, or in extreme cases cause death of the patient (6).

Although rare, oral myiasis has been ascribed to poor oral hygiene, alcoholism, senility, suppurative lesions, severe halitosis (7) and neoplasias (8), and has been reported in patients with special needs (5). The present paper reports a case of oral myiasis in the anterior region of the maxilla.

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Case Report

A white male patient aged 34 years with neurologic deficit and of low socio-economic status was referred to the Stomatology Service for evaluation of a swelling in the upper lip accompanied by intense pain and a fetid odor. The patient had a precarious hygiene condition and had reported the presence of "bugs in the mouth" over the previous three months. Physical examination revealed larvae on the gingival mucosa between the upper incisors, both vestibular areas subjacent to the upper lip, and on the hard palate (Fig. 1). The patient had type II occlusion and multiple diastemas, making contact between the upper and lower lip impossible, in addition to having poor oral hygiene and advanced periodontal disease. At the same consultation, 55 larvae were manually removed (Fig. 2) with the help of clinical forceps, and the area was cleansed with saline. Because of the patient's precarious periodontal condition, topical use of oxygenated water was applied. Laboratory tests were requested (complete blood count, RBC sedimentation rate, fasting blood glucose, and platelet count) and a re-examination was scheduled in seven days. At the next consultation, intraoral examination revealed no larvae, hematological test results were within the normal ranges, and the lesion area had healed (Fig. 3, A and B). Topical use of oxygenated water was continued, and the

patient was referred to a periodontist. One of the larvae was examined by scanning electron microscopy, as shown in Fig. 4.

Discussion

Cited among the risk factors for the development of oral myiasis are suppurative lesions, facial trauma and poor oral hygiene (7). In the present case, it is possible that the patient's open bite and mouth breathing had favored egg-laying on the gingiva, where the infestation had developed. The patient's precarious oral hygiene, generalized periodontal disease and intense halitosis associated with oral myiasis were in accord with previous reports. In addition, the patient had neurologic deficit, which could have facilitated the infestation. The tropical climate of Brazil is another factor that favors the growth of larvae and flies, and consequently the occurrence of myiasis (9). Erol et al. (10) reported a 4-year-old girl who developed oral myiasis in the vestibular sulcus at the level of both deciduous laterals along the deep upper lip tissues. Similarly to the present patient, a perpetually open mouth and mouth breathing were predisposing factors for development of the disease in that case.

Larvae can destroy vital tissues, inducing serious or even life-threatening hemorrhage (1). The absence of extensive necrotic areas in the present case can be explained by the time course of the lesion and by the number of larvae, because according to Abdo et al., the more delayed the diagnosis and the greater the number of larvae, the greater the damage to tissues, sometimes requiring aesthetic surgery for reconstruction of the affected site.

Mechanical removal of larvae is the traditional treatment for myiasis (11), but the use of systemic ivermectin can give favorable results in more severe cases (1). Sometimes, topical antibiotics are employed as coadjuvants in the treatment (12). In the present case, complete removal of the larvae was performed manually and no systemic treatment was necessary.

Prevention of human myiasis involves control of fly populations and general cleanliness such as reducing

Fig. 1 Initial clinical appearance.

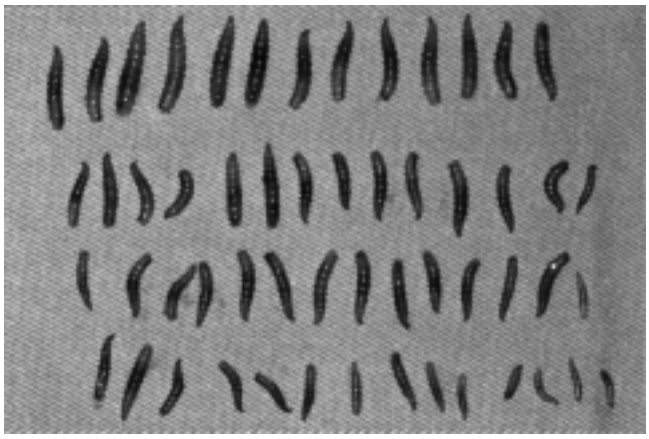

Fig. 2 Larvae removed.

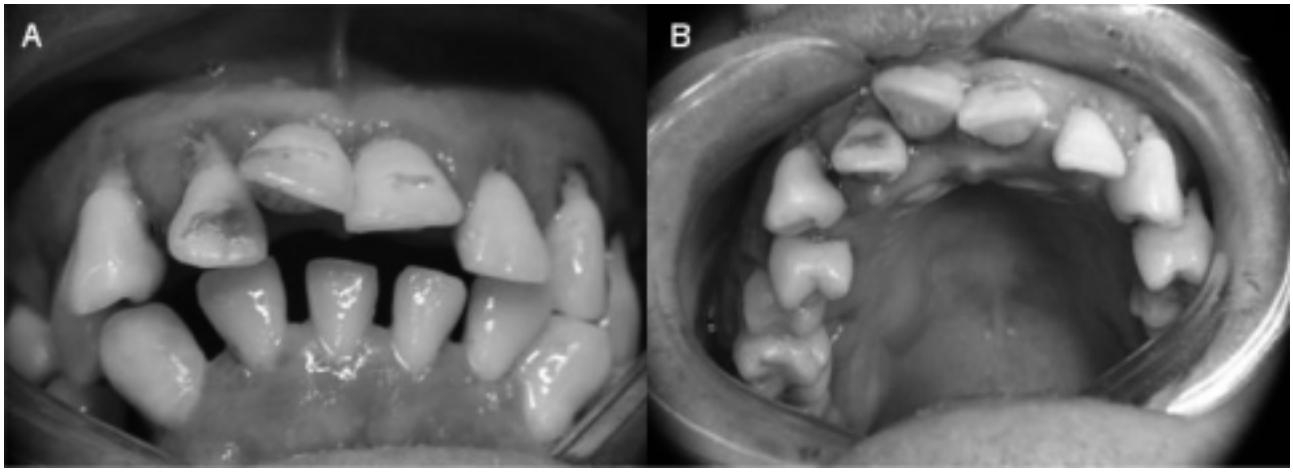

Fig. 3 A and B: Clinical appearance one week after removal of the larvae.

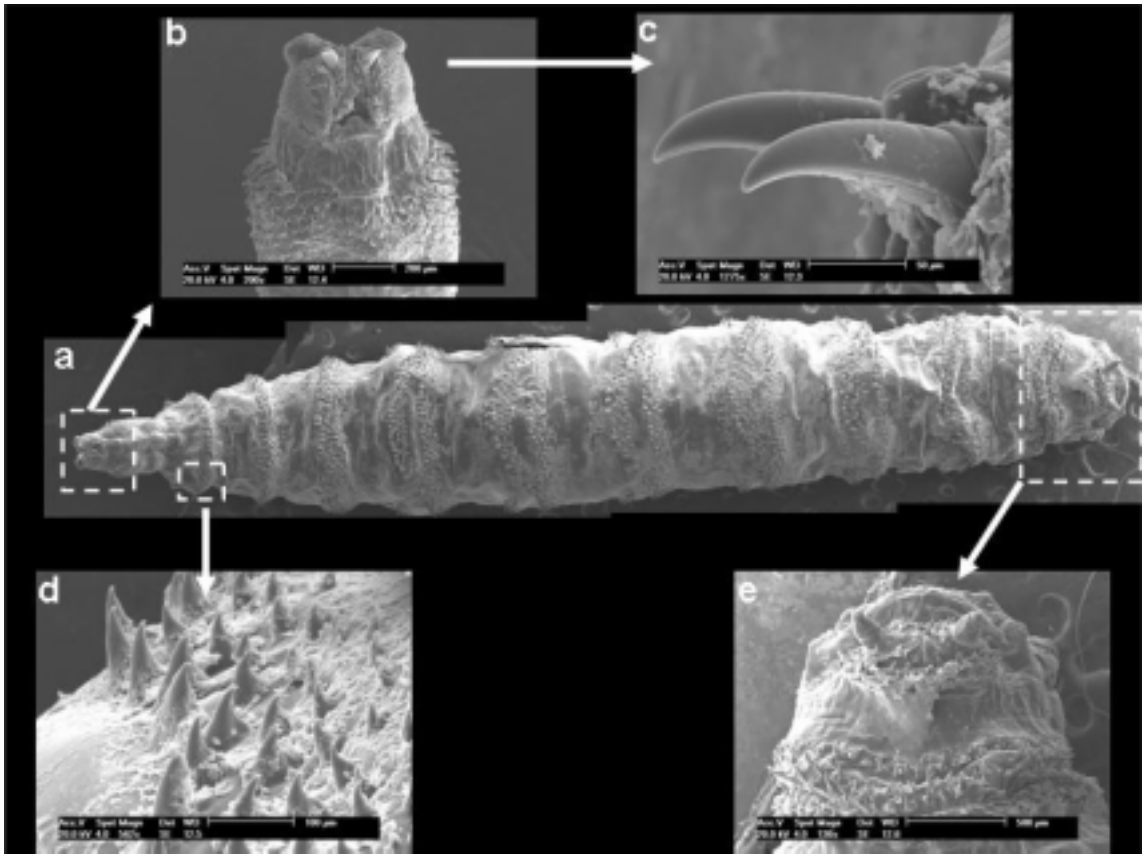

Fig. 4 Scanning electron microscopy of a larva removed from the patient. (a) Various electron micrographs are displayed. Photographs b, c, d and e show the appendages responsible for movement and attachment of the larva in the host: (b) ×200 magnification, bar = 700 μm; (c) ×1275 magnification, bar = 50 μm; (d) ×562 magnification, bar = 100 μm; (e) ×130 magnification, bar = 500 μm.

decomposition odors and cleaning and covering wounds, in addition to informing the public that individuals living in locations without basic sanitation are more predisposed to infestation.

References

1. Shinohara EH, Martini MZ, Oliveira Neto HG, Takahashi A (2004) Oral myiasis treated with ivermectin: case report. Braz Dent J 15, 79-81
2. Abdo EN, Sette-Dias AC, Comunian CR, Dutra CE, Aguiar EG (2006) Oral myiasis: a case report. Med Oral Patol Oral Cir Bucal 11, E130-E131
3. Yazar S, Dik B, Yalcin S, Demirtas F, Yaman O, Ozturk M, Sahin I (2005) Nosocomial oral myiasis by *Sarcophaga sp.* in Turkey. Yonsei Med J 46, 431-434
4. Hira PR, Assad RM, Okasha G, Al-Ali FM, Iqbal J, Mutawali KE, Disney RH, Hall MJ (2004) Myiasis in Kuwait: nosocomial infections caused by *Lucilia sericata* and *Megaselia scalaris*. Am J Trop Med Hyg 70, 386-389
5. Joo CY, Kim JB (2001) Nosocomial submandibular infections with dipterous fly larvae. Korean J Parasitol 39, 255-260
6. Çaça I, Ünlü K, Çakmak SS, Bilek K, Şakalar YB, Ünlü G (2003) Orbital myiasis: case report. Jpn J Ophthalmol 47, 412-414
7. Gomez RS, Perdigão PF, Pimenta FJ, Rios Leite AC, Tanos de Lacerda JC, Custódio Neto AL (2003) Oral myiasis by screwworm *Cochliomyia hominivorax*. Br J Oral Maxillofac Surg 41, 115-116
8. Sousa Maciel-Santos ME, Medeiros Martins CA, Hernández Cancino CM, Silva Neto JC (2005) Facial myasis associated with end-stage spinocellular carcinoma. Rev Cubana Estomatol 42 (in Spanish)
9. Ramalho JRO, Prado EP, Santos FCC, Cintra PPVC, Pinto JA (2001) Nasal myiasis: case report. Rev Bras Otorrinolaringol 67, 581-584 (in Portuguese)
10. Erol B, Ünlü G, Balci K, Tanrikulu R (2000) Oral myiasis caused by hypoderma bovis larvae in a child: a case report. J Oral Sci 42, 247-249
11. Bhatt AP, Jayakrishnan A (2000) Oral myiasis: a case

report. Int J Paediatr Dent 10, 67-70
12. Yuca K, Caksen H, Sakin YF, Yuca SA, Kiris M, Yilmaz H, Cankaya H (2005) Aural myiasis in children and literature review. Tohoku J Exp Med 206, 125-130