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## Oral and maxillofacial myiasis: a case series and literature review

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**Objective.** The aim of this study was to describe a series of 10 cases of oral-maxillofacial myiasis, discussing its main features, demographic distribution, and treatment aspects.

**Study design.** A retrospective study was carried out involving male and female patients of any age with oral-maxillofacial myiasis. The sample was determined by spontaneous demand at the emergency ward of a hospital between January 2005 and January 2011 (6 years). After treatment of each case, data were gathered on the presence of associated systemic disorders, time elapsed since onset of the disease, and treatment established. A review of the literature on this topic was also carried out.

**Results.** The sample was made up of 10 patients, all treated with surgical debridement whether or not associated with the use of oral ivermectin. Mean time elapsed since the onset of the disease ranged from 4 to 36 months. The middle third of the face was the most frequently affected region (7 cases). Oral-maxillofacial myiasis predominantly affected the male gender (70%).

**Conclusions.** Oral-maxillofacial myiasis affects individuals with poor hygiene and neurologic and/or psychologic alterations. It occurs predominantly in countries near the tropics. The treatment of choice is surgical debridement. (Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2011;112:e81-e85)

Myiasis is the invasion of human or animal tissue by fly larvae that evolve into parasites.<sup>1</sup> This is a worldwide phenomenon related to latitude and the life cycle of various species of flies. Myiasis occurs predominantly in the tropics and subtropics in countries with inadequate hygiene, poor housing conditions (proximity to domesticated animals), and warm weather.<sup>2</sup>

Myiasis is classified as either primary or secondary. Primary myiasis is caused by larvae that feed on living tissue (biophagous). This form of myiasis is common in

cattle and rare in humans. It is produced by *Cochliomyia hominivorax* ("varejeira" fly), which lays 20-400 eggs on exposed wounds, with larvae hatching within 24 hours.<sup>3</sup> Secondary myiasis is caused by flies that feed on dead tissue (necrobiophagous). This is the more common type and attacks patients with lesions that have necrotic cavities.<sup>1,4</sup>

Infestation is most often subcutaneous, producing furunculoid or boil-like lesions, and it can also occur in certain body cavities and wounds.<sup>5</sup> The larvae obtain their nutrition from the surrounding tissue and burrow deep tunnels into soft tissue, separating the gums and mucoperiosteum from the bone.<sup>6</sup>

Oral-maxillofacial myiasis has been described in the literature since 1909 and is considered to be a rare occurrence.<sup>7</sup> The cases described are mostly due to medical and anatomic conditions, such as neglected mandibular fracture,<sup>8</sup> lip incompetence, cerebral palsy, mouth breathing, anterior open bite,<sup>9</sup> patients undergoing mechanical ventilation,<sup>10</sup> cancrum oris,<sup>8</sup> and tooth extraction.<sup>11</sup>

The aim of the present study was to describe a series of 10 cases of oral-maxillofacial myiasis, discussing its main features, demographic distribution, and treatment aspects and comparing the findings with earlier studies in the literature.

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Fig. 1. Clinical aspect of the patient.



Fig. 2. Necrotic tissue after larvae removal.



Fig. 3. Primary wound closure after debridement.



Fig. 4. Larvae removed from the wound.

## MATERIALS AND METHODS

A retrospective study was carried out involving male and female patients of any age with oral-maxillofacial myiasis. The sample was determined by spontaneous demand at the emergency ward of a hospital between January 2005 and January 2011 (6 years). After treatment of each case, data were gathered on gender, age, site, species of larva, the presence of associated systemic disorder, time elapsed since onset of the disease,

and treatment established. In all cases, the larvae were sent for parasitologic analysis for the confirmation of the species.

All of the patients underwent operations soon after admission to the emergency ward. Under general anesthesia, the mechanical removal of the larvae was performed, along with debridement of the necrotic tissue and an attempt at the maximal possible primary closure of the wound, as exemplified in case 1 (Figs. 1-4). The patients were also treated with a systemic antibiotic (cephalotin, 1 g every 6 h), antiinflammatory, and analgesic. No specific medication protocol for ivermectin was instituted, and the decision to use this drug fell to the health care professional conducting each case.

## Literature review

All papers published in the literature between 1963 and 2010 on oral-maxillofacial myiasis in all languages were surveyed to determine the mapping of cases per

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