

# Oral Myiasis Treated with Ivermectin: Case Report

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Oral myiasis is a rare pathology and a risk to the patient's life. Conventional treatment is mechanical removal of the larvae (maggots) one by one, which is painful, distressing, and embarrassing both to the patient and to the dentist. We present a case report of a patient with cerebral palsy that had oral myiasis treated successfully with ivermectin. The use of this antibiotic in humans, its mechanism of action and indications are discussed.

Key Words: oral myiasis, ivermectin, parasitosis.

## INTRODUCTION

Myiasis is a pathology caused by the presence of fly larvae in human or animal tissues that evolve to a parasite (1). There is a higher incidence in rural zones, infecting domestic animals such as cattle and pigs, as well as house pets such as dogs and cats, leading to economic loss and health injuries of these animals. They can attack humans, generally elderly people who are ill or debilitated (2,3), especially in the tropics and third world countries (4,5).

Clinically, they can be classified as primary and secondary. Primary myiasis is caused by biophagous larvae (feed on living tissue), which are common in cattle (called *bicheiras*) and are rare in humans. Nevertheless, when this occurs, it is generally serious and produced by *Cochliomya hominivorax* larvae ("varejeira" fly) that lays 20 to 400 eggs on exposed wounds. Hatching of the larvae occurs in 24 h. The larvae are voracious and destroy integral tissues, and may cause serious hemorrhage and be life threatening. Secondary myiasis is that caused by the necrobiophagous flies (feed on dead tissue). This is a more common type and attacks patients with necrotic cavity lesions (1,3).

We present a case report of a patient with oral myiasis treated successfully with oral ivermectin.

## CASE REPORT

A 20-year-old Caucasian female patient with hypotonic cerebral palsy was referred to the Emergency Service of the Conjunto Hospitalar do Mandaqui, SUS/SP, with a clinical history of larvae coming out of her mouth for one day. On clinical examination, the patient was found to be dehydrated, presenting an anterior swelling on the upper lip covered with integral skin and with signs of inflammation (Figure 1). Oral examina-

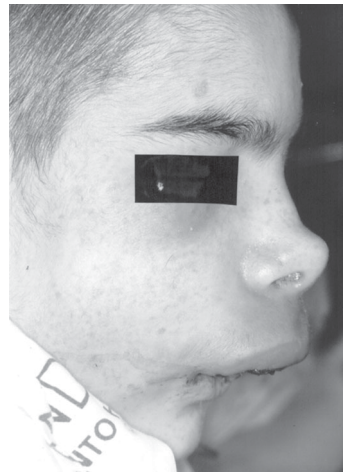


Figure 1. Appearance of patient at presentation. Note the anterior swelling on the upper lip.

tion found a large number of larvae on the maxillary gingival labial sulcus, which were already destroying the gingival sulcus (Figure 2) near the nasal fossa. The computerized tomography showed the extension of tissue destruction (Figure 3). Hematological analysis was normal. Antibiotic therapy was started (1 g cefalotin, *iv*, every 6 h), endovenous rehydration, and 6 mg ivermectin was given orally, and repeated after 24 h. On the first day, a marked decrease of the larvae (about 80%) was observed, and the remaining larvae were immobile. Oral cleansing was made daily. After 3 days of hospitalization, there were no larvae in the patient's mouth and she was discharged. A parasitologist later identified the larva as the fly, *Cochliomyia hominivorax*.

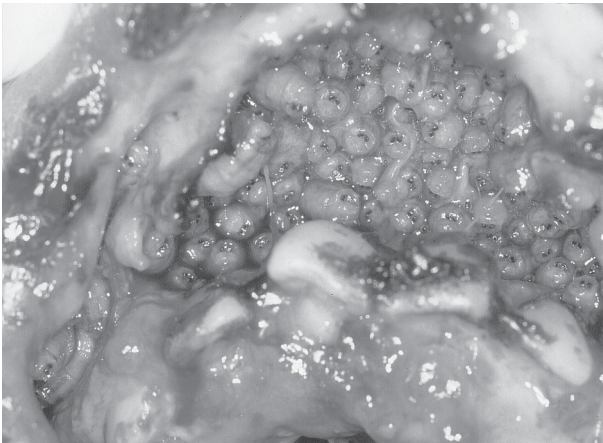


Figure 2. Photograph showing the maxillary gingival labial sulcus and the maggots.

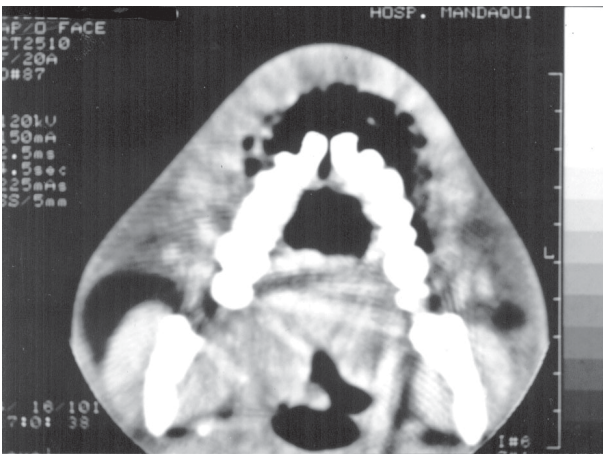


Figure 3. Computerized tomography with intravenous contrast of the maxilla. Gas bubbles are seen in the soft tissue in the anterior maxilla.

## DISCUSSION

The standard treatment for myiasis is the manual removal, associated or not with topic and systemic asphyxiating drugs that force the larvae to come out. Various substances (ether, chloroform, olive oil, calomel, iodoform, phenol mixture) have been recommended for the treatment of myiasis; however, they have controversial results (6-8).

Ivermectin is a semi-synthetic macrolide antibiotic, isolated from *Streptomyces avermitilis*, and its use is well documented in large animals for the control of gastrointestinal and pulmonary parasitosis, for infestation by crab-louse and larva flies ("berne").

In 1993, ivermectin was reported to be safe for human use (9) and has been indicated for the treatment of filaria, scabies and strongyloidosis in humans (9,10). Evaluating the use of oral ivermectin in human cavity infestations, Ribeiro et al. (3) reported that no patient presented alterations in hepatic or renal function after the oral ingestion of ivermectin. Thus, they concluded that it is a safe medication and presents neither side effects nor toxicity.

It is assumed that ivermectin blocks nerve impulses on the ending nerve through the release of gamma aminobutyric acid (GABA), linking to the receptors and causing palsy and death (11). Acetylcholine, which is the main peripheral neurotransmitter in mammals, is not affected by ivermectin, maintaining a security margin when it is used at the recommended dose (3).

Recently, indications for topical and oral use for the treatment of myiasis have been found in the literature (12-15). Duque et al. (16) treated oral myiasis with *sc* ivermectin, although 2 of the 3 cases were associated with phenol mixture (10% creolin) as a local measure for the control of larvae.

Thus, the current literature describes ivermectin as an efficient and safe method of treatment of parasitosis and the present report describes its use in human oral myiasis.

## RESUMO

Míase bucal é patologia raramente descrita e que oferece risco de morte ao paciente. O tratamento convencional é a remoção mecânica das larvas uma a uma que é dolorido, constrangedor e repugnante tanto ao paciente quanto ao dentista. Apresentamos relato de caso de paciente portadora de paralisia cerebral que teve

miíase bucal tratada com ivermectina. O uso deste antibiótico em humanos, o mecanismo de ação, assim como suas indicações são revisados.

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