

Extensive myiasis infestation over a squamous cell carcinoma in the face. Case report

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Abstract

Human myiasis is a parasitosis found in tropical and underdeveloped countries. It usually affects the elderly, unhealthy and mentally disabled individuals. It is caused by dipterous that lay their eggs in necrotic or infected tissues, although areas of the body that are apparently healthy can also be affected. Frequently the fly deposits several eggs on the peripheral parts of scratches and wounds. The treatment of myiasis involves mechanical removal of the larvae with hemostatic pincers. Larvae rupture must be avoided. Application of topical ether or similar volatile substance is useful. Preventive approach measures, including basic health care, hygiene, access to primary health service, and safe water and drainage, are fundamental to prevent human myiasis. The authors present a case report of myiasis infestation over an extensive head and neck squamous cell carcinoma from a 72-year-old patient living in a rural area. Approximately 200 larvae were removed and the patient was taken to the hospital's head and neck surgery service.

Key words: *Myiasis, squamous cell carcinoma, parasitic disease.*

Introduction

The term myiasis is currently defined as the infestation of live vertebrate animals with dipterous larvae, which, at least for a certain period, feed on the host's dead or living tissue, developing as parasites (1).

This parasitic infestation frequently occurs in rural areas infecting livestock (2) and pets such as dogs and cats (3,4).

In humans, myiasis prevails in unhealthy individuals frequently found in third world countries as in Latin America (5). Human myiasis is extremely rare in Europe and in the Northern hemisphere but it is not an uncommon parasitic infestation in the tropics and subtropics (6), as Brazil.

According to Rey (1), primary myiasis is caused by bionthofogas larvae that feed on living tissues. These larvae

invade healthy tissue and set the pathological process.

The most common clinical form of primary myiasis is the furunculoid myiasis (boil-like myiasis), also known as berne. This kind of myiasis is primarily caused by the *Dermatobia hominis* or *Cocchiomya hominivorax* flies affecting healthy people mainly in rural areas (1,2). Frequently the fly deposits several eggs on the peripheral parts of scratches and wounds (2).

Secondary myiasis is caused by necrobiontophagas larvae flies that feed on necrotic tissues. These larvae are invaders of pre-existing lesions parasitizing mainly on ulcerated necrotic wounds as in some cutaneous neoplasias (1).

The aim of this work is to present a case report of myiasis infestation over a head and neck squamous cell carcinoma from a patient living in a rural area.

Case Report

A 72-year-old woman, widow, living in a rural area, attended the emergency room at ULBRA Hospital, Porto Alegre, RS, Brazil, complaining of deglutition problems and a face ulcer. The exam showed a large necrotic tissue area enclosing the cervico-facial region with larvae internally located (Figure 1). During the exam, an ulcer and the presence of larvae was observed on the mouth's floor. The patient showed palpable, fixed and painless linfonodes in bilateral submandibular and cervical regions. Under local anesthesia, approximately 200 larvae were removed using pincers and ether embedded cotton (Figure 2). The biopsy of the ulcerated area confirmed the diagnosis of squamous cell carcinoma and the patient was taken to the hospital's Head and Neck Surgery Service.



Fig. 1. Extensive necrotic tissue area of the cervico-facial region with many larvae located inside of it.



Fig. 2. Illustrative macroscopic aspect of part of the removed larvae.

Discussion

Many poor people in underdeveloped countries are malnourished and live in unsanitary condition. As a result they are vulnerable to diseases such as myiasis (7).

Human myiasis is found among the elderly and abandoned individuals, as well as in interns of geriatric hospitals and mental institutions presenting poor hygienic habits (2). Although the patient was accompanied by her son to the Emergency Room, she lived completely alone in a rural area with evidence of social and family alienation. This situation was observed by the clinically advanced stage of the malignancy and its long-term. Besides, the population who lives in rural areas often neglect their health, sometimes simply through lack of knowledge. In addition, infrastructure and other facilities are inadequate, and overall quality of life is poor (7).

The treatment of myiasis involves mechanical removal of the larvae with hemostatic or ordinary clinical pincers. Larvae rupture must be avoided. Application of topical ether or similar volatile substance is useful too (1, 2).

In secondary myiasis the larvae feed on the wounded area's necrotic tissues (7). In the present case, the number of larvae were proportional to the lesion size. Ribeiro et al. (2) reported two cases, one with hundred larvae measuring approximately 5 mm each, on the ear of a 30-year-old patient, and another, containing about 200 larvae in a neoplasia. Rossi-Schneider et al. (8) reported a case of oral myiasis caused by precarious oral hygiene in a patient with neurologic deficit. Abdo et al. (9) reported a case of the treatment of oral myiasis using topic gentian violet, oral therapy with ivermectin and surgical exploration to remove the larvae and necrotic tissue. Some precautions also be taken in patients with habits such a mouth breathing, which may provide an ideal opportunity for the flies to lay eggs unnoticed by the patient (10). In the present case, the large necrotic area in an exposed location was a favorable condition to the fly deposits its eggs.

In conclusion, myiasis affects mostly the uncovered body areas where oviposition is easily carried out. It frequently affects low socioeconomic level individuals with poor hygiene habits and unhealthy patients with psychiatric disorders, diabetics, and immunocompromised patients (11). It is associated with family abandonment as in this case-report in which not only the myiasis was neglected, but also an extensive carcinoma as well. Undoubtedly, preventive approach measures, including basic health care, hygiene, access to primary health service, and safe water and drainage, are fundamental to prevent cases such as this one.

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