

External ophthalmomyiasis

Oftalmomiíase externa

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ABSTRACT

The purpose of this report is to describe a case of external ophthalmomyiasis, discussing the clinical picture, differential diagnoses and treatment options. The information was obtained by means of a review of the medical record, an interview with the patient and a photographic record of the diagnostic and therapeutic methods to which the patient was submitted. Data were analyzed together with an extensive review of the literature. Our article reports a case of a patient who was initially diagnosed and treated for pre-septal cellulitis and after evaluation by a specialist in oculoplastics, the diagnosis and appropriate treatment for ophthalmomyiasis was performed. It also reveals the importance of this diagnosis, infrequent in large urban centers, its treatment and evolution.

Keywords: Hypodermose; Eye infections; Blepharoptosis; Ivermectin; Case reports

RESUMO

O objetivo deste resumo é relatar um caso de portador de oftalmomiíase externa, discorrendo sobre o quadro clínico, os diagnósticos diferenciais e as opções de tratamento. As informações foram obtidas por meio de revisão do prontuário, entrevista com o paciente e registro fotográfico dos métodos diagnósticos e terapêuticos aos quais o paciente foi submetido. Dados foram analisados junto a uma extensa revisão da literatura. O nosso artigo relata um caso de um paciente que foi inicialmente diagnosticado e tratado como celulite pré -septal e após avaliação de especialista em oculoplástica foi realizado o diagnóstico e tratamento adequado para oftalmomiíase. Também revela a importância deste diagnóstico, infrequente nos grandes centros urbanos, seu tratamento e evolução.

Descritores: Hipodermose; Infecções oculares; Blefaroptose; Ivermectina; Relatos de casos

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INTRODUCTION

Myiiasis is understood as the infestation of the organs and tissues of man and other vertebrates of diptera larvae completing their cycle or at least part of their development in or on the body of the host, feeding on living or dead tissues of the host.⁽¹⁾ Diptera causing myiasis in humans can be divided into 3 groups: (1) obligatory: larvae that naturally develop on or in living vertebrates. In these, man may be the main or incidental host; (2) optional: Diptera larvae developed in decaying organic matter. They may reach necrotic tissue in the body of the host; (3) pseudomyiasis caused by diptera larvae ingested with food.

Most cases of primary myiasis in humans are caused by two species: *Dermatobia hominis* and *Cordilobia antrophaga*.⁽²⁾ Myiasis caused by *Dermatobia hominis* is usually caused by a single larva, whereas that caused by *Callitroga hominivorax* promotes less localized inflammation, with innumerable larvae with active movement in the same site of infestation.⁽¹⁾ Clinical manifestations depend on the infected specimen, organ or tissue. The larva can be found in body cavities and in the gastrointestinal and genitourinary tract. Involvement of the eye-palpebral region is rare and may occur in approximately 5% of cases, resulting in variable involvement ranging from local irritation to blindness, disfigurement and death.⁽¹⁾

Ophthalmomyiasis refers to the invasion of the eyelids, conjunctiva, cornea, anterior segment, posterior or orbital segment by the larva.⁽³⁾ In this sense, the infection can be classified as: (1) external ophthalmomyiasis, when it attacks the orbit or ocular tissues attached; (2) anterior internal ophthalmomyiasis, when there is involvement of the anterior chamber of the eye; (3) posterior internal ophthalmomyiasis, when the larva attacks the posterior segment.⁽¹⁾ The purpose of the present study is to report a case of external ophthalmomyiasis, and discuss the clinical condition, differential diagnoses, and treatment options.

The case report had the Free and Informed Consent Form signed by the patient, and was previously submitted and approved by the Ethics and Research Committee on Human Beings of Faculdade de Medicina de Valença - Rio de Janeiro.

CASE REPORT

MAOL, male, 44 years old, married, house sitter, insulin-dependent diabetic, native of Mangaratiba/RJ, resident in the rural area, started a condition of irritative ocular signs associated with eyelid edema and discharge of sero-sanguinolent secretion in right eye. He sought medical care at a Family Health Center near his home, and treatment with Tobradex[®] eyedrops (Tobramycin 3 mg / Dexamethasone 1 mg) was initiated every 6h without improvement. With this presentation, the patient sought the General Ophthalmology Ambulatory of Instituto Benjamin Constant when the probable diagnosis of pre-septal cellulitis was made, and the treatment with Cefalexina 500mg every 6h and warm compresses was initiated. The patient was referred to the Oculoplastic Department after the seventh day of treatment and with reduction of the inflammatory condition (Figure 1). At that time, it was possible to perform the eversion of the upper eyelid, and the diagnosis of external ophthalmomyiasis was performed due to the presence of an external drainage hole in

the upper palpebral corner and direct observation of the larva (Figure 2). The use of oral Ivermectin in a single dose of 150-200 µg/kg of body weight and larval exeresis by surgical procedure was indicated, associated to the reconstruction of the affected tissues, scheduled for the first working day afterwards. During this period, the patient presented spontaneous expulsion of the larva. The patient evolved with regression of eyelid edema and with adequate eyelid functioning, and no surgical approach was necessary (Figures 3 and 4).



Figure 1: Blepharoeedema



Figure 2: Eyelid eversion showing the larvae



Figure 3: Tarsal conjunctiva after larvae removal



Figure 4: *Dermatobia hominis*

DISCUSSION

Many different species of flies can produce myiasis. The ocular tissue may be affected by mechanical transmission and/or parasitic activity of the larvae.⁽⁴⁾ The larva can invade both the necrotic tissue and the healthy tissue. Many people become infected by accidental ingestion of eggs or larvae, or even by contamination or external wound of the skin.⁽⁵⁾ The patient presented is a resident of the rural area and insulin-dependent diabetic. It is known that infants and young children, alcoholics, untreated debilitated patients such as diabetics and mentally handicapped, people of less privileged socioeconomic status, and people in rural areas are common targets for infestation with myiasis-producing flies.^(1,4,6) In the present case, the clinical form of presentation resembles the furunculoid form comprising the formation of typical subcutaneous nodules where occasionally bacterial infections and abscess formation may occur.⁽⁷⁾ In the case reported, the infestation occurred by a single larva, being inferred to be *Dermatobia hominis*, since no entomological identification was made. The treatment of myiasis is not a simple task, as there is often a need for manipulation of necrotic tissues. The definitive treatment consists of the withdrawal of the larvae.⁽¹⁾ There are several ways of treating the myiasis described, and the treatment varies in each case depending on the number of larvae and the tissue involved.⁽⁸⁾ There are many treatment options for this condition, with the simplest being the mechanical withdrawal with tweezers under local anesthesia.^(1,8,9) If the larva is removed incompletely, the remainder may produce inflammatory reaction, infection or granuloma.⁽⁸⁾ Mechanical removal of the larvae can also be performed by surgical debridement.⁽¹⁾ Other alternatives include folk habits with the use of several substances to block the respiratory path of the larvae, making them migrate to the surface for the later mechanical withdrawal.^(1,8,9) In the present case, a surgical debridement associated to the use of oral Ivermectin in a single dose was chosen as recommended by the

literature.⁽⁴⁾ Surgical debridement was not necessary due to the spontaneous expulsion of the larvae. Ivermectin is a semi-synthetic derivative of the macrolide family.⁽⁸⁾ The systemic anthelmintic introduced in 1980 as the broadest spectrum antiparasitic drug ever manufactured is effective against most intestinal parasites, most arthropods, and some nematodes.⁽⁹⁾ The drug was approved by the FDA in 1997. The use of oral Ivermectin leads to the elimination of the larvae. Combating the fly and improving basic sanitation conditions would be important factors in prevention. As it is an animal parasite, it is recommended to treat the animals. A major contribution to prevention is the patient and their family understanding about the “furuncle” and the precautions to avoid it.⁽¹⁾ The authors emphasize the importance of the diagnosis of external ophthalmomyiasis, an unusual condition in large urban centers, its treatment and evolution.

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