

Minor Lagochilascaris Otomastoiditis in a Child: Case Report

Otomastoidite por Lagochilascaris Minor em Criança: Relato de Caso

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SUMMARY

Introduction:

The lagochilascariosis is an emerging zoonosis determined by the presence of helminth *Lagochilascaris minor* in human tissues. Infection occurs through ingestion of larvae encysted in the subcutaneous tissue, muscles and viscera of wild animals consumed by man so raw or undercooked. The disease is rare, insidious, chronic condition, characterized by the appearance of lesions, especially in the neck, mastoid, ear, nose and oropharynx. A serious, sometimes fatal, depend on the location of the parasite.

Objective:

To describe a case of otomastoiditis by *L. minor* in child, attended at the Hospital das Clinicas, Federal University of Goiás.

Case Report:

Patient 10 years old female, complaining of otalgia and purulent otorrhea right. Otoscopy left ear was normal, while the right ear had retroauricular edema, polyps in the external ear canal and fistula with drainage of pus. The tympanic membrane was intact. The stages of treatment were described since the initial consultation to the recovery of the patient.

Final Comments:

The clinician should be alert to the importance in considering the differential diagnosis of this disease on individuals residing in rural areas.

Keywords:

otitis media, zoonoses, parasites.

RESUMO

Introdução:

A lagochilascarirose é uma zoonose emergente determinada pela presença do helminto *Lagochilascaris minor* em tecidos humanos. A infecção ocorre por meio da ingestão de larvas encistadas no tecido subcutâneo, na musculatura e vísceras de animais silvestres consumidos pelo homem de forma crua ou mal cozidos. A doença é rara, insidiosa, de caráter crônico, caracterizada pelo surgimento de lesões, principalmente na região do pescoço, mastoide, ouvido, rino e orofaringe. A gravidade, por vezes fatal, dependerá da localização do parasito.

Objetivo:

Descrever um caso de otomastoidite por *L. minor* em criança, atendida no Hospital das Clínicas da Universidade Federal de Goiás.

Relato do Caso:

Paciente 10 anos, sexo feminino, com queixa de otalgia intensa e otorreia purulenta à direita. À otoscopia, a orelha esquerda apresentava-se normal, enquanto na orelha direita havia edema retroauricular, pólipos no conduto auditivo externo e fístula com drenagem de secreção purulenta. A membrana timpânica estava íntegra. As etapas do atendimento foram descritas desde a consulta inicial até a recuperação da paciente.

Comentários Finais:

O clínico deve estar alerta para importância em se considerar o diagnóstico diferencial de tal afecção diante de indivíduos residentes em zonas rurais.

Palavras-chave:

otite média, zoonoses, parasitos.

INTRODUCTION

The lagochilascariosis is an emerging zoonosis determined by the presence of helminth *Lagochilascaris minor* in human tissues. In the literature, is described five species of the genus, *L.* the only *minor* associated with human infections, which in adulthood affects approximately 50-20 mm in compliance with (1,2,3).

Wild animals are considered natural hosts are humans, dogs, cats and accidental hosts (2,4). CAMPOS et al. (1992) described the experimental life cycle of *L. minor*. These authors confirmed the hypothesis formulated by SMITH et al. (1983) that human infection is caused by ingestion of raw or undercooked meat containing larvae encysted in tissues of rodents, intermediate hosts (2). In the stomach the larvae hatch from the nodules and migrate through the esophagus to the upper digestive tract (2).

Lagochilascaris minor infection is rare, insidious, chronic condition, characterized by the appearance of festering abscesses located in the neck, mastoid, ear, nose and oropharynx. Occasionally, other structures such as the nasopharynx, brain, lungs, sinuses, Eustachian tube, dental and eye sockets, may be affected. Disease severity depends on the location of the lesion, the reproductive capacity of the parasite, even by the incursion of tissues and host immune response (1,2,3,6,7).

The diagnosis is based on identification of eggs, larvae and adult worms present in the secretions of the parasite in the lesions. Radiological examinations are useful in showing the location and extent of injuries, aiding in clinical management to be followed (3).

The following therapy with the use of Albendazole, Levamisole and Diethylcarbamazine in high doses. However, recurrences are common even after months of healing. Surgical removal of the larvae is a resource used to shorten the healing (2,7,10).

Worldwide Brazil ranks first in cases of human infection *Lagochilascaris minor*, mostly coming from the north, especially the state of Pará (7).

This paper introduces the presentation of a case, its relevance lies in the fact that arose in the rare case in the clinic of otolaryngology and other specialties. There were no records of attendance of such disease in recent decades, possibly by the rarity of its occurrence.

In this report the authors describe a case of otomastoiditis by *L. minor* in child, from the state of Mato



Figure 1. Retroauricular fistula right. Seropurulent secretion drainage. SLQ patient resident of the rural area of South Australia (MT). HC-UFG 2004.

Grosso, seen at Hospital das Clinicas, Federal University of Goiás, in Goiânia.

CASE REPORT

SLQ patient, 10 years old, female student, a native of Barra Herons (MT), from rural areas of the city of South Australia (MT), came to the emergency department of Otorhinolaryngology, Hospital das Clinicas (HC), Federal University Goiás (UFG) in April 2004 with the following clinical features: severe otalgia, purulent otorrhea, hyperemia and retroauricular bulging right.

The guardian said that in the last two months the child presented with swelling, pain with purulent discharge in the right ear, looking for a health unit in your town, being seen by an ENT specialist who performed the drainage of the abscess by retroauricular incision with no improvement, evolved to purulent secretion through the hole.

In the clinical evaluation and oropharyngoscopy rinofaringoscopia earlier showed no change. Otoscopy left ear was normal, while the right ear had retroauricular edema, polyps in the external ear canal and fistula with drainage of pus. The tympanic membrane was intact (Figure 1).

Based on the clinical patient was hospitalized with a diagnosis of right otomastoiditis being requested laboratory tests, whose results were normal at the time. Began drug therapy with intravenous antibiotics.

The procedures for computed tomography of the temporal bones revealed opacification of mastoid cells

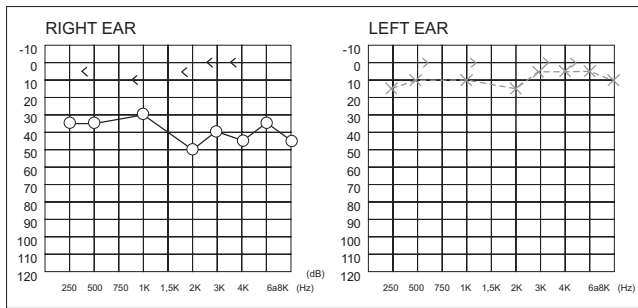


Figure 2. Audiometry. Conductive hearing loss of mild right with hearing thresholds within normal limits on the left. HC-UFG 2004.

with hyperdense material in the middle ear, already audiometry detected conductive hearing loss of mild right with hearing thresholds within normal limits on the left (Figure 2).

Three days after the initial consultation, the patient underwent a right mastoidectomy. Once the incision, we found the presence of spongy subcutaneous tissue and purulent discharge in the region of the mastoid and middle ear. In the early postoperative infection has evolved with persistent otorrhea and retroauricular fistula.

Histopathology revealed granulation tissue containing interspersed linfocitoplasmocitário marked infiltrate and foreign body granuloma comprising fragments of parasites with chitinous layer. Owing to the fragmentation of the parasite could not identify it precisely, in this material.

In the Laboratory of Biology, Biochemistry and Immunology of Helminths (LBBIH) Institute of Tropical Pathology and Public Health (IPTSP) of UFG, the definitive diagnosis was established by stool examination of the secretion of retroauricular fistula with identifying the direct examination on fresh, eggs of *L. minor* and later by stool examinations (Figure 3).

After the diagnosis was given specific therapy with levamisole (150 mg / day) ivermectin (300 mg / kg / week) and later, albendazole (400 mg / day) with marked improvement otology. The patient was discharged with the same prescription for 40 days with a scheduled return later to the otorhinolaryngology from hospital after 90 days.

Three months after surgery the patient returns to the clinic, where he observed the formation of a discrete nodule adjacent to the previous injury, which was spontaneous elimination of a small live worm, according to a report of the patient's father. After removal, surgical

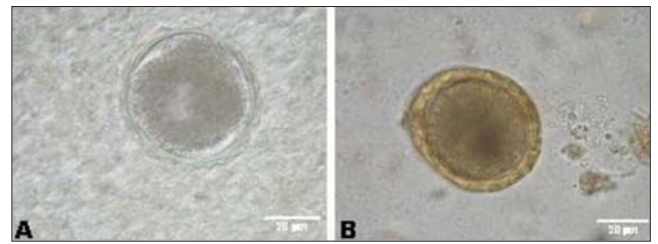


Figure 3. *Lagochilascaris minor* eggs in seropurulent secretion retroauricular fistula (A) and stool examinations (B) of patient SLQ resident of the rural area of South Australia (MT). IP TSP-UFG 2004.

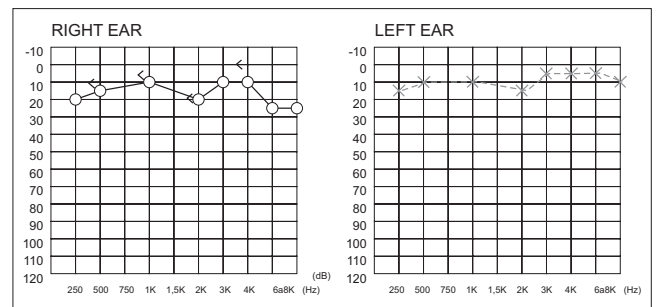


Figure 4. Audiometry. Normal hearing thresholds in both ears. HC-UFG 2005.

histopathology revealed fragments of tissue with chronic granulomatous inflammatory reaction, containing interspersed cuts *Lagochilascaris* suggestive of parasite. Were prescribed two courses of albendazole at intervals of 15 days alternating with a weekly administration of ivermectin. The patient was advised to return to the clinic after six months for follow up treatment. After this period, he returned with no signs of otorrhea or ear infection right, being carried out further examination hearing whose outcome had to be within normal limits in both ears (Figure 4).

The patient was discharged, returning to his home city, and continued follow up with teams of infectious diseases and parasitology IPTSP HC-UFG.

DISCUSSION

The interest in describing this case is evidenced in the rarity of its occurrence, as well as the conduct and outcome of it.

The diagnosis is based on identification of eggs, larvae and adult worms present in the lesions where surgical cleaning may help in healing. In this case the patient had a festering abscess in the mastoid region,

during the surgical removal of the same, material was removed for biopsy showing a histological results suggestive of infection by *L. minor* confirmed later by stool examination of the secretion and faeces of patients (3,7,9,10).

Generally otological surgeries require some care to preserve the hearing of the individual. The patient's laboratory tests showed no changes are not supporting the diagnosis. However, tests such as computed tomography of the temporal bone and auditory helped in planning and surgical approach, as recommended by some studies (3,9).

The ingestion of game meat (armadillo and paca) was mentioned by the patient lying in the literature that the disease is acquired through ingestion of larvae encysted in the subcutaneous tissue, muscle and viscera of wild animals (1,3,4).

Whereas the process of recurrent disease, we used the prescription of albendazole and ivermectin for long time monitoring functions with renal, hepatic, hematopoietic and endocrine pancreatic throughout treatment. Measures such as maintenance medication and regular monitoring at the clinic until clinical improvement of symptoms were followed, as suggested by some authors (3,7,8,10). Disregard the recurrent process and neglect the maintenance and monitoring of the case may aggravate the same (9).

Throughout the treatment the patient was monitored by teams of otolaryngology, infectious diseases and parasitology of the institution.

FINAL COMMENTS

The joint treatment between the teams of otolaryngology, infectious diseases and parasitology as well as participation and cooperation of the patient and family coping with disease, appearing at all returns, closely following the prescription, confirmed for the successful treatment, whereas the same reside in another state.

The clinical significance remains to be careful in considering the differential diagnosis of this disease on individuals residing in rural areas. This serious parasitic disease can affect various structures of the body, severely compromising the health of the patient with serious complications that may lead to death.

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