

CASE REPORT

LEISHMANIA OF THE VOCAL CORD: AN UNUSUAL SITE

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ABSTRACT

Isolated laryngeal involvement is a rare presentation of leishmaniasis. We describe a patient with leishmaniasis of the vocal cord. The patient had no systemic involvement. She was neither suffering from HIV infection, nor she was on any immunosuppressive medications.

Key words: Leishmaniasis, larynx, vocal cord.

INTRODUCTION

Cutaneous and muco-cutaneous leishmaniasis is a common condition in our set up. Patients with visceral leishmaniasis are also encountered from time to time. We are going to describe a patient with very unusual presentation with isolated involvement of the vocal cord. This patient had no evidence of systemic involvement. She was neither suffering from HIV infection, nor she was on any immunosuppressive medications. Common diseases may sometimes present in uncommon ways and thus pose a diagnostic and management challenge.

A young lady of 30 years age, from Waziristan, presented to the ENT clinic, DHQ Teaching Hospital DI Khan, Pakistan, with the complaint of change in voice and difficulty in breathing for the last two months. Her systemic examination was unremarkable. On laryngoscopy an ulcerative, nodular mass was seen on the right vocal cord involving the anterior commissure.

Biopsy was taken from the mass and sent for histopathology to Shifa International Hospital, Islamabad. Clinically, it was considered to be malignant lesion, but the report of the specimen was surprising. The microscopic description was, the sections show many fragments lined by stratified squamous epithelium. The sub-epithelial tissue shows marked acute on chronic inflammation along with fibrosis and sheets of macrophages. Scattered leishmania donovani (LD) bodies like structures are seen, suggestive of "Chronic Inflammation, with suspected Leishmaniasis."

It was a case of leishmania donovani affecting the vocal cord only, an unusual presentation. The patient was inquired once again but there was no relevant history except that the patient sleep in open air during summer without any cover or net.

Re-examination by laryngoscopy was planned and another biopsy was taken. This time it was sent

to another laboratory, City laboratory, Peshawar. Report of the microscopic examination revealed, "Sections show two fragments of inflamed laryngeal mucosa with one focally lined by being laryngeal epithelium. The underlying tissue shows a large number of lymphocytes and macrophages with prominent LD bodies within their cytoplasm." The opinion was leishmaniasis. The comments of pathologist were, "the lesions appear to have been caused by a direct sand fly bite on the laryngeal surface, following its inhalation. It does not appear to be due to systemic leishmaniasis."

DISCUSSION

It was not until the parasite, Leishmania donovani, was discovered in 1900 by Leishman and Donovan that the true nature and cause of the disease became apparent. William Leishman was a Scottish army doctor and Charles Donovan was a professor of physiology at Madras University, India. They independently discovered the parasites in the spleens of patients with kala azar (Visceral Leishmaniasis) The search for a vector was a long journey and it was not until 1921 that the experimental proof of transmission to humans by the sand flies belonging to genus Phlebotomus was demonstrated by the Sergeant brothers, Edouard and Etienne. The actual mode of infection, through the bite of the sand fly was not finally demonstrated until 1941.¹

Leishmania is an obligate intracellular parasite that infects macrophages of the vertebrate host, resulting in visceral, cutaneous and muco-cutaneous leishmaniasis in humans. Recently Pucadyil reported that plasma membrane cholesterol is required for the efficient attachment and internalization of the parasite in macrophages, leading to leishmaniasis.²

In some areas leishmaniasis is zoonotic, whereas in others, man is the main reservoir of infection. In the vertebrate host the parasites are found as oval amastigotes, Leishmania donovani (LD) bod-

ies. These multiply inside the macrophages and other cells of mononuclear phagocyte or reticulo-endothelial system. Parasites are taken into the gut of a feeding sand fly (Genus *Phlebotomus* in the old world and *Lutzomyia* in the new world), where they develop into the promastigote form. These migrate to the salivary glands of the insect, from where that can be inoculated into a new host.⁴

As recently as 1990, the treatment for kala azar world wide in both children and adults was essentially limited to pentavalent antimony compound, in use for the last 50 years. However, it is now found to be ineffective in certain regions, like Bihar state which house 90% of the Indian cases and 40% of the world's cases. In experimental animal models, amphotericin B is one of the most active alternative anti-leishmanial agent. Aminisidine, an aminoglycoside, combined with antimonials successfully reduces the duration of therapy. Numerous oral agents have been tested and discarded for kala azar such as 8-aminoquinolones. The membrane-active phospholipid derivative, hexadecylphosphocholine (mitefosine) have been identified as the first effective oral treatment in visceral infection.⁵

Otorhinolaryngeal involvement has only rarely been reported in the literature. It can either be as a result of systemic involvement or isolated involvement only.⁶ The primary isolated involvement of the larynx by leishmaniasis is an exceptional presentation, reported from time to time.^{7,8,9} Nandy et al (1997) described 3 cases of post kala azar dermal leishmaniasis (PKDL) presenting with hoarseness of voice.¹⁰ Ferlito et al (1986) reported a case of leishmaniasis of the larynx caused by *Leishmania donovani* occurring in a 42-year-old man.¹¹ Abrams et al (1992) reported muco-cutaneous leishmaniasis of the larynx in a 63 year old man.¹²

Immuno-suppression predispose a person for visceral leishmaniasis. It has been documented in HIV-infected patients in endemic areas. In these patients, *Leishmania donovani* may eventually be described for every organ containing phagocytic cells.¹³

The isolated localization of *Leishmania* spp. in the larynx, which occurred by surgery, in a patient infected by human immunodeficiency virus (HIV),

is also described by Navarro Cunchillos et al (1994).¹⁴

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