CASE REPORT

Severe nasal destruction in mucocutaneous leishmaniasis: A case report

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ABSTRACT

Mucocutaneous leishmaniasis represents a severe complication of cutaneous leishmaniasis caused by Leishmania braziliensis, which may result in permanent facial deformity. We present the case of a 36-year-old cattle rancher from Santo Domingo de los Tsáchilas who developed a nasal lesion that progressed over 12 months to a destructive ulcerative lesion with perforation of the nasal septum and palatal involvement. The diagnosis was confirmed by direct smear demonstrating amastigote forms and PCR positive for Leishmania braziliensis. Despite treatment with meglumine antimoniate at 20 mg/kg/day for 28 days in accordance with the national treatment protocol, the lesion progressively worsened, ultimately requiring maxillofacial reconstructive surgery. The patient developed recurrence six months after the procedure, suggesting refractoriness to conventional therapy. This case illustrates the consequences of delayed diagnosis and highlights the need to strengthen access to sensitive diagnostic methods and second-line therapies within the Ecuadorian public health system in order to prevent irreversible sequelae associated with this neglected tropical disease.

INTRODUCTION

Mucocutaneous leishmaniasis is a neglected disease that affects approximately 3–5% of cutaneous cases caused by Leishmania braziliensis, with a predilection for the nasal mucosa.[1] This clinical form may develop months or years after the initial cutaneous lesion and is characterized by progressive destruction of the nasal, palatal, and pharyngeal structures.[2,3] Leishmaniasis represents a global public health problem, affecting approximately 12 million people worldwide, with an estimated annual incidence of 1.3 million new cases.[4]

In Ecuador, an estimated 3,000–4,500 new cases of leishmaniasis occur each year, and more than three million people are at risk.[5] Santo Domingo de los Tsáchilas reported 12.5% of national cases in 2014, making it an important endemic area.[6] The geographic distribution of leishmaniasis in Ecuador is closely related to climatic and ecological factors that favor the proliferation of phlebotomine sandfly vectors.[7]

Specific virulence factors of Leishmania braziliensis include its ability to invade mucosal tissues and its resistance to host defense mechanisms.[8] The pathogenesis of the mucocutaneous form involves an exacerbated immune response that contributes to progressive tissue destruction.[9]

The present report aims to illustrate the devastating consequences of delayed diagnosis and the limitations of the public health system in the management of this condition, key aspects in preventing the morbidity associated with this preventable disease.

CASE REPORT

A 36-year-old male cattle rancher from Santo Domingo de los Tsáchilas, with no relevant past medical history, presented with a nasal lesion of 12 months' duration. The lesion initially appeared as a small papule and progressively enlarged until it evolved into a nodulo-ulcerative lesion.

Physical examination revealed a destructive ulcer involving the nasal region with irregular elevated borders, a granulomatous base, destruction of the nasal cartilages, perforation of the nasal septum, and involvement of the hard palate. No regional lymphadenopathy was detected.

Complementary diagnostic studies included a direct smear demonstrating amastigote forms of Leishmania spp., while PCR confirmed the presence of Leishmania braziliensis. Routine laboratory tests were within normal limits.

Treatment with meglumine antimoniate at a dose of 20 mg/kg/day for 28 days was initiated according to the national treatment protocol. However, during follow-up, progressive tissue destruction was observed, ultimately requiring maxillofacial reconstructive surgery.

Despite surgical reconstruction, the patient developed recurrence of the lesion six months after the procedure, suggesting refractoriness to conventional treatment.

DISCUSSION

This case illustrates the diagnostic and therapeutic challenges of mucocutaneous leishmaniasis in Ecuador. The exclusive reliance on microscopy to initiate therapy favors underdiagnosis, as the sensitivity of the smear ranges from 51–76%, whereas qPCR reaches 68–73%.[10] Molecular methods have demonstrated greater diagnostic accuracy, particularly in cases with low parasitic load.[11]



Figura 1: Lesión mucocutánea nasal con destrucción severa de estructuras cartilaginosas y perforación septal.

The Ministry of Public Health continues to use microscopy as the reference test and only treats patients with a positive smear, although studies report sensitivities of 14–51%, leaving many patients without treatment.[10] This diagnostic limitation contributes to delays in treatment initiation, allowing progression to destructive forms such as that observed in our patient. Implementation of rapid immunochromatographic assays could significantly improve diagnosis in rural endemic regions.[11,12]

Additionally, pentavalent antimonials show therapeutic failure in up to 45% of cases,[13] as observed in this patient who did not respond to conventional treatment. Second-line drugs, such as amphotericin B or miltefosine, are not available in the first-level public health system, limiting therapeutic options for refractory cases. Antimonial resistance has become an increasing problem in several endemic regions.[14]

The patient's agricultural occupation is a known risk factor, as it exposes workers to phlebotomine sandflies, increasing the incidence among men and cattle ranchers.[15] Rural activities in endemic areas require specific preventive measures that are often not adequately implemented. Vector control programs must consider the ecological behavior of local sandfly species in order to be effective.

CONCLUSION

This case demonstrates that delayed diagnosis and lack of access to effective therapies may allow a potentially curable infection to progress to permanent facial deformity.

Strengthening primary healthcare services through implementation of sensitive diagnostic methods, ensuring availability of second-line therapies, and establishing screening programs in rural endemic communities are urgently needed to prevent similar cases and reduce healthcare inequities.

Mucocutaneous leishmaniasis represents a significant public health problem that requires a comprehensive multidisciplinary approach including improvements in diagnosis, treatment, prevention, and access to specialized care.

INFORMED CONSENT

The patient included in this study signed an informed consent form authorizing the use of his images and clinical data exclusively for research and scientific publication purposes. It is guaranteed that no personal data have been provided and that no photographs allowing patient identification have been used.

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