Microbial perils of the jungle: A case of leishmaniasis in an immigrant from South America

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Introduction

Cutaneous leishmaniasis (CL) is a protozoan infection transmitted by the bite of a sand fly. While rarely encountered in the United States, leishmaniasis is endemic in many regions of the world, including North Africa, the Middle East, the Mediterranean, Central America, and northern parts of South America. CL usually causes chronic non-healing ulcerative lesions on the skin. Almost all cases of CL detected in the U.S. are amongst individuals who became infected while traveling through or living in an endemic region; in particular, travel through the Darién Gap Jungle, a common immigration route from South America, has been associated with cases of CL.

We present a case of CL caused by *Leishmania panamensis* in an immigrant originally from Chile who traveled through a jungle between Colombia and Panama during his migration into the U.S. This case report demonstrates the need to include cutaneous leishmaniasis in the differential diagnosis for patients presenting with chronic skin ulcers who have recently immigrated to the U.S from endemic countries.

Case Presentation

A 36 year old male presented to the emergency department with non-healing lesions on his left arm and forearm. The lesions first appeared about two months prior while the patient was migrating by foot from Chile to the United States.

The skin lesions began as a generalized papular rash all over his body which developed into vesicles that drained clear fluid and eventually turned yellow in color. Many of the smaller lesions had since resolved leaving scars, but two remained that were intensely pruritic and painful on his left arm and forearm. He also reported fatigue, headache over the past three days, decreased appetite and urinary frequency.

On admission, the patient was afebrile and hemodynamically stable. Skin exam showed a dry-appearing chronic ulcer with heaped border and erythematous base measuring 4cm by 3cm on the lateral left forearm, and a similar lesion measuring 1cm by 1cm on the left bicep (Figure 1). Surrounding skin was notably tender, and multiple 1-2cm mobile lymph nodes were palpable proximal to the bicep lesion. No oral or nasal mucosal lesions were noted, and the physical exam was otherwise normal.

Complete blood count and basic metabolic panel labs were all within normal limits. Blood cultures revealed no growth of microorganisms. A computed tomography scan of the humerus and forearm showed segmental regions of skin thickening and subcutaneous edema with no defined fluid collection or abscess.

Tissue biopsy done showed granulomatous inflammation, with sections of dermal inflammatory infiltrate of lymphocytes, epithelioid histiocytes, nuclear debris and Langerhans cells. Giemsa stain was negative for amastigotes and fungal hyphae. Acid-fast bacilli and Fite stains were negative for mycobacteria. Polymerase chain reaction (PCR) testing of the specimen by the CDC revealed the presence of *Leishmania panamensis.*

Initially, empiric treatment was started with fluconazole 200 mg orally once daily. A week later, the patient's lesions appeared to have worsened with continued pain and purulent discharge. Fluconazole was discontinued and treatment was transitioned to miltefosine 50 mg orally 3 times daily for 28 days. He presented to the clinic after completing the full course of treatment with marked healing of lesions which were nontender without discharge (Figure 2).

Figure 1: Cutaneous leishmaniasis, Initial presentation, pre-treatment

Figure 2: Cutaneous leishmaniasis, post-treatment with miltefosine

Conclusion

- Cutaneous leishmaniasis should be considered in the differential diagnosis of chronic skin lesions in patients who have traveled to endemic areas.
- They can present in various ways as macular, papular, nodular, psoriasiform, or ulcerative lesions that can be associated with or without pain.
- Several testing modalities, including PCR, should be performed to help with the parasitologic diagnosis and identify the causative Leishmania species, which is important for determining optimal treatment.

References

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