Localized Cutaneous Leishmaniasis Treated with Observation - A Case Report

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Abstract
Leishmaniasis is a vector-borne protozoan infection transmitted by the bite of an infected female phlebotomine sandfly. The disease presents in four different forms: visceral leishmaniasis, or kala-azar; cutaneous leishmaniasis; mucocutaneous leishmaniasis; and diffuse cutaneous leishmaniasis. We report the case of a 36 year old Hispanic male with a 10 mm diameter lesion on the right mid lateral leg diagnosed as localized cutaneous leishmaniasis with the species identified as L. Mexicana on tissue culture. The patient underwent spontaneous resolution of the lesion with no pharmacologic intervention.

Clinical synopsis
A 36 years old Hispanic male presented to outpatient dermatology consult with a chief complaint of a non-painful ulcer to the mid right lateral leg of three months duration that started with itching followed by mild scaling and no purulent exudate a month later. He self-treated the area with neosporin and heblicens unsuccessfully. He denied other systemic symptoms such as fevers, fatigue and weight loss. Apart from a trip to Cancun, Mexico two years prior, he denied any foreign travel around the time he first noticed the lesion. His extracurricular activities involved bushey trail running and his last run before developing the lesion was in trails around Houston and Austin. He denied having any immunosuppressive condition or being on immune suppressive medication or therapy.

Case Report (con’t)
Exam: Physical exam was notable for a brown solitary atrophic plaque to the right lateral leg with an erythematous center and greyish violaceous outer rim with fibrinous exudate (Fig 1). No swelling, lymphadenopathy, tenderness on palpation or anesthesia to the area was noted on exam. No other ulcers, plaques and patches were present on exam including mucosal surface. The rest of the physical exam was unremarkable.

Laboratory and Diagnostic Findings: A 4mm perilesional punch biopsy was obtained from the area. Histopathology analysis of the specimen revealed numerous amastigotes present within vacuolized histiocytes, consistent with Leishmaniais on H & E (Fig 2a & 2b). A culture medium of Novy-MacNeal-Nicolle (NNN) was provided gratis from the CDC and another biopsy specimen was obtained from the lesion for invitro culture identification of leishmaniais and PCR speciation by the CDC. Culture results were confirmatory for leishmaniais with Leishmania Mexicana identified through DNA sequencing.

Intervention: The L. Mexicana species is not associated with an increased risk of mucosal leishmaniasis or sever disseminated leishmaniasis in otherwise health individuals. Taking into consideration that the patient's solitary lesion, non immunocompromised state and no other systemic symptoms related to the infection, clinical observation with close follow up and no pharmacological therapy was deemed appropriate. Intervention with cryotherapy, topical paromycin and or intralesional pentamidine was planned should no spontaneous healing of lesion be observed within 6 months.

Response to Treatment: Our patient reported via phone that area healed within three months of visit with a scar to area. He felt satisfied with outcome and did not think he needed another dermatology visit thus refused re-examination and was lost to follow up.

Discussion
According to the World Health Organization, leishmaniasis is one of seven most important tropical zoonoses. Its manifestations vary in degree of severity depending on the species involved and the immune response of patients.10 can present as self-limited skin ulcers to the most severe form where infection can cause multisystem failure secondary to hemorrhage and thrombocytopenia. Our patient presented with the localized cutaneous variant (LCV). Cutaneous Leishmaniasis can be caused by L. tropica in the Eastern Hemisphere or L. Mexicana in Mexico and Central America. The sandfly bites usually occur in exposed areas most commonly on ears, nose, upper extremities and ankles.11 The parasite has an incubation period of 1-4 weeks but may last several years.12 Initially, it presents with erythematous papules with pruritus in some patients. The lesion size can range from 1 to 10 millimeters. After 48 hours, it converts to a vesicle then into a pustule. Eventually, it may break due to trauma, revealing an ulcer with round borders and sharp edges.13 The cutaneous variant can be self limiting based on the variable species of Leishmania. L major, L mexicana complex and cutaneous lesions associated with L donovani complex are usually self-limited within 3 to 6 months; for L. braziliensis complex and L. tropica, it often takes up to 1 year; and for L. aethiopica this may range from 6 months to several years.

Diagnosis is usually made by clinical symptoms and epidemiological context. The protozoa can be found on skin scrapings of lesions. Histopathological studies reveal epithelial hyperplasia or atrophy with infiltration of macrophages, lymphocytes and plasma cells with localized necrotic areas.7 Parasites known as amastigotes, can be found intracellularly within cytoplasmic vacuoles on histiocytes during early stages. During late stages, a lympho-histiocytic infiltrate is seen within infected macrophages. PCR shows 100% specificity for CL.8

There is no general consensus of drug therapies.12 Treatment options include chemotherapy, cryotherapy, systemic treatments, thermotherapy and local therapy in the form of treatment.1 Local therapy is reasonable for patients with uncomplicated CL who are not healing spontaneously and/or those pursuing therapeutic intervention. Topical paromycin or intralesional pentamidine antimicrobial can be used. Some studies describe a combination of miltefosine and thermotherapy has been proven an effective alternative.13

Conclusions
Management of Leishmaniasis is dependent upon severity of clinical manifestations and strains involved. Clinical observation is a reasonable option for immunocompetent patients with uncomplicated lesions that are healing spontaneously and not associated with MCL such as our patient and should be considered especially in cases where potential medication interactions of greater concern and cosmetic appearance of scar is not an issue to the patient.

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