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# Multiple Ulcerated Nodules

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A previously healthy 42-year-old male from North Africa presented to the dermatology clinic with skin lesions over his limbs and abdomen for two months. He reported minimal associated pruritus, but no systemic complaints. Local skin examination showed three erythematous and ulcerated nodules over the left forearm, left flank, and right thigh [Figure 1]. The rest of the systemic examination was unremarkable. A bacterial swab from the nodules was negative and treatment with oral antibiotics did not help. A skin biopsy was obtained and findings in high magnification are shown in Figure 2.

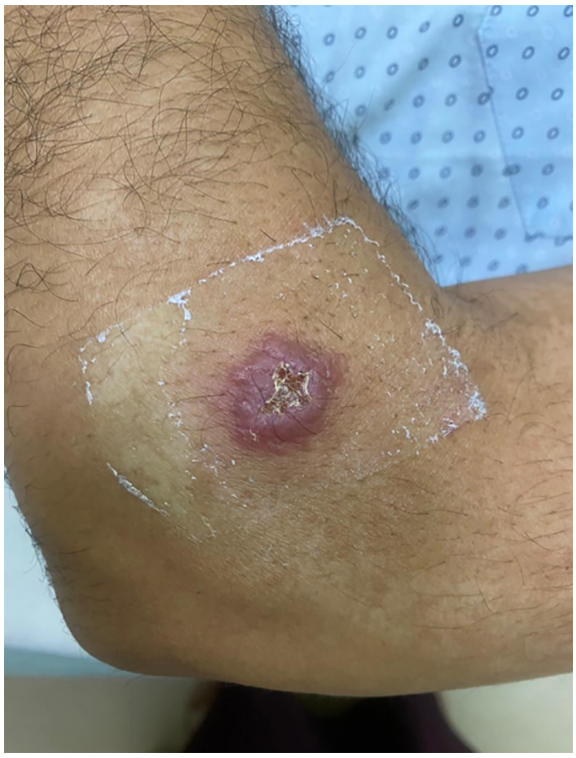

**Figure 1:** Ulcerated nodules on the arm of a 42-year-old male.

## *Question*

1. What is the most likely diagnosis?
   a. Pyoderma gangrenosum.
   b. Ecthyma.
   c. Cutaneous leishmaniasis.
   d. Leprosy.

## *Answer*

c. Cutaneous leishmaniasis.

Skin biopsy demonstrated numerous amastigotes within histiocytes highlighted by Giemsa stain confirming the clinical diagnosis of cutaneous leishmaniasis (CL). The patient was started on treatment with local cryotherapy sessions in combination with oral itraconazole 200 mg/day.

## DISCUSSION

CL, listed as an emerging and neglected tropical disease by the World Health Organization, is a vector-borne infection caused by a heterogeneous group of protozoa belonging to the genus *Leishmania*. It is transmitted by sand fly vectors. At

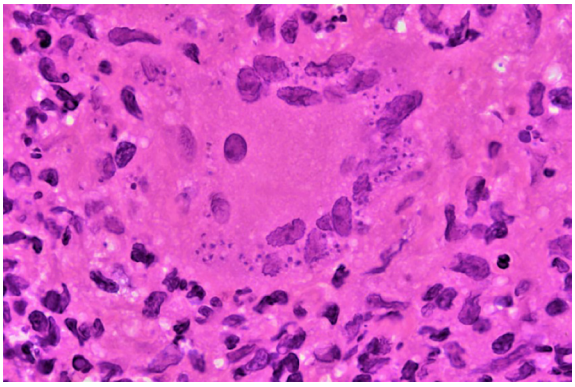

**Figure 2:** Skin biopsy. Hematoxylin and eosin staining, magnification = 100 ×.

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least 20 species of *Leishmania* are responsible for the different clinical forms of the disease in which CL is the most common. CL is endemic in almost 100 countries worldwide and affects 12 million cases. Localized CL typically presents as a solitary lesion, but multiple lesions do occur on exposed areas of the skin, especially the face and extremities. The initial lesion is a painless, small red papule, which gradually enlarges up to 2 cm in diameter with typical central ulceration. The incubation time between an infected sand fly bite and lesion development ranges from weeks to months.[1]

Diagnosis can be confirmed by demonstration of the parasite in a clinical specimen (usually skin) by histology, culture, or molecular analysis via polymerase chain reaction. There is no single universal treatment for CL. Some cases may resolve spontaneously but could leave a scar. Depending on the clinical severity of infection, treatments can be either local or systemic, or a combination. Local therapies include pentavalent antimonials, paromomycin, cryotherapy, heat therapy, and imiquimod. Systemic therapies include azoles antifungals, amphotericin, pentavalent antimonials, and miltefosine.[2]

### *Disclosure*

The authors declared no conflicts of interest. Informed consent was obtained from the pateint.

### *Acknowledgments*

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