CASE REPORT

A healthy 45-year-old man (a physician) developed a papule on his left arm while attending a yoga retreat in the jungle near Puerto Viejo, Costa Rica. Three weeks after returning from Costa Rica, the papule became more nodular and itchy. Initially, he thought this was an inflammatory reaction, but the papule did not respond to self-prescribed topical triamcinolone ointment.

About 10 weeks after the exposure, the lesion began to ulcerate and ooze serous fluid. Examination of the papule revealed a 6-cm × 5-cm erythematous nodular ulcerated lesion with a raised indurated border and central crusting (Figure 1). At this stage, the patient presented to his primary care physician (PCP), who arranged a biopsy. The patient suggested that a sand fly might have bitten him prior to the development of the papule.

The lesion gradually enlarged to a size of 10 cm × 11 cm and became mildly painful. Satellite lesions developed, along with lymphangitis and left axillary lymphadenopathy (Figure 2).

DIFFERENTIAL DIAGNOSIS

A variety of potential causes exist for skin ulcers presented on a returning traveler. Differential diagnosis includes infected insect bites; pyoderma associated with staphylococci and streptococci; syphilis; traumatic ulcers; cutaneous leishmaniasis; mycobacterial infections; fungal infections; tularemia; yaws; and myiasis.1 Other serious possibilities are cutaneous anthrax and dermatologic cancer.

In order to accurately diagnose the cause of a skin ulcer, the physician must take a detailed history of the patient.
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PCPs should consider recent travel locations and local disease patterns and exposure. Physical characteristics should be assessed, along with a combination of either microscopic analysis of skin scrapings, punch biopsy, serologic testing, or needle aspiration and culture.

With this in mind, physicians should understand which test is appropriate to make a proper diagnosis. When used for cutaneous leishmaniasis, serologic testing has low sensitivity and is likely to produce a negative result early in the disease course. Serologic testing is more useful in helping to diagnose syphilis, yaws, or tularemia. Biopsy and culture are helpful in diagnosing bacterial and fungal infections. Cutaneous anthrax can be identified by its appearance; this includes edema out of proportion to the size of the lesion, gram staining, and culture results of the ulcer exudate. In this case, the patient’s biopsy showed leishmaniasis with amastigotes.

Cutaneous leishmaniasis, a vector-borne parasitic disease, is endemic in areas of the tropics, subtropics, and southern Europe. Travelers—including military personnel—who visit or those who live in these areas are at an increased risk for this disease. In October 2003, cases of cutaneous leishmaniasis were reported among US military personnel serving in Iraq (especially in the urban and periurban areas of An Nasiriyah and Baghdad), near the Iraqi border in Kuwait, and in Afghanistan. Parasites from the genus Leishmania, such as Leishmania braziliensis and Leishmania mexicana, cause cutaneous leishmaniasis. The disease is transmitted when an individual is bitten by a female sand fly.

TREATMENT

Patients returning from various South American countries (eg, Colombia, Costa Rica, Honduras, Venezuela) have possibly contracted L braziliensis. These patients require adequate systemic therapy, since their symptoms are more likely to progress to a mucocutaneous disease than those infected by other Leishmania species.

Reasons for seeking early treatment include the growth of chronic or multiple lesions, the appearance of cosmetically unacceptable lesions, the spread of lesions over the joints, lesions found on immunsuppressed patients, or the development of associated lymphangitis. In these situations, the preferred treatment is intravenous (IV) pentavalent antimonial compound sodium stibogluconate. Other treatment options include amphotericin-B and ketoconazole.

Effective treatment of cutaneous leishmaniasis is usually achieved with pentavalent antimonial compound sodium stibogluconate at a dosage of 20 mg/kg a day for 20 days. Unfortunately, this product is not licensed for use in the United States. However, the military is provided with sodium stibogluconate under the Investigational New Drug (IND) protocols held by the Surgeon General of the Army with the US Food and Drug Administration (FDA). The Centers for Disease Control and Prevention has a separate IND protocol with the FDA, which allows for provision of this drug to civilians infected with leishmaniasis.

Side effects from antimony treatment are common and include malaise, anorexia, myalgia, and arthralgia. Antimony treatment is associated with elevations in serum aminotransferases, chemical pancreatitis, mild leukopenia, and thrombocytopenia. Electrocardiogram (ECG) changes, including T-wave flattening and prolongation of the Q-T interval, also are possible. Whereas treatment should be monitored, in most cases these abnormalities settle rapidly upon completion of therapy. Once a patient begins treatment, lesions usually heal within a month and become progressively less indurated and flatter with subsequent epithelialization; larger lesions may take longer to heal.

After consultation with an infectious disease specialist, the patient received treatment at the Family Health Center in Pittsburgh. Based on the epidemiology of diseases acquired in Costa Rica and the behavior of the skin lesions, the patient’s condition was diagnosed as secondary to L braziliensis. Treatment began and tissue samples were sent for a confirmatory culture. During the course of treatment, the patient developed significant arthralgias, mild elevations of lipase, and mild ECG abnormalities, which improved after completion of therapy. Figure 3 shows the regression of the lesion after 9 days of therapy; by the final day of treatment, the lesion was an asymptomatic atrophic scar.

CONCLUSION

Cutaneous leishmaniasis is an uncommon disease among returning US travelers. However, when evaluating a patient with a progressive ulcerative lesion, travel history and potential exposure always should be considered. With the increase of travel abroad by private citizens and military personnel, physicians should be aware of the diagnosis and treatment methods for this disease.

References