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Lues Maligna

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A 41-year-old man with a history of untreated human immunodeficiency virus (HIV)-1 infection presented to clinic with ulcerating lesions on the right foot and left chest (Figure 1). He reported a 9-month history of annular, hyperpigmented rash. There were no antecedent genital lesions, although he reported unprotected sex with a man later diagnosed with syphilis and had multiple sexual contacts during the 2 years before presentation. The rash became increasingly ulcerative with serosanguinous drainage. He was admitted to the hospital and biopsies were obtained. Histopathologic examination (Figure 2, hematoxylin and eosin) demonstrated lichenoid infiltrate endothelial hyperplasia and a dense plasma cell infiltrate. Human immunodeficiency virus load was 73 000 copies/mL with a CD4 count of 629 cells/μL. Rapid plasma reagin (RPR) titer was 1:1024, and fluorescent treponemal antibody absorption test was positive.

These findings were consistent with lues maligna or malignant syphilis, a severe, ulceronodular form of secondary syphilis that has been reported in conjunction with untreated HIV-1 infection and other immunodeficiencies [1–4]. Histologic examination of this patient's lesions demonstrated the characteristic abundance of plasma cells and endothelial hyperplasia seen in lues maligna (Figure 2) [2, 3, 5]. Spirochetes were absent under Stiener staining of the biopsy, consistent with previous case reports showing the paucity of spirochetes identified microscopically in lues maligna [3, 6]. He received intramuscular benzathine penicillin on admission. Within 72 hours, lesions stopped draining and showed only hyperpigmentation at 2-week follow up. He received 2 additional weekly doses of benzathine penicillin [2]. Minimal scarring was present at 6 months (Figure 3).

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Lues maligna was first described in the 1800s and represents a severe form of secondary syphilis [1–6]. The lesions of lues maligna have an ulceronodular appearance unlike the classic mucocutaneous eruption of secondary syphilis. In addition, lues maligna typically involves the trunk and extremities but rarely the scalp [2, 4]. The rash bears resemblance to that seen in yaws and the gummatous lesions of tertiary syphilis with multiple, well circumscribed, ulcerations that have a characteristically crusted borders and minimal surrounding erythema, although the lesions can also present as pustules [3–5].

This patient with untreated HIV-1 infection was diagnosed with lues maligna based on serology, pathologic findings, and his dramatic response to antibiotic therapy. Thus, he met 3 of 4 diagnostic criteria for lues maligna, only lacking in a severe Jarisch-Herxheimer reaction with penicillin treatment [3, 4]. Appropriately treated lues maligna resolves rapidly [3]. This patient's multiple, large ulcerations nearly resolved with 1 dose of benzathine penicillin and resolved completely after 3 weekly doses of penicillin. Lumbar puncture to rule out concomitant neurosyphilis would have been ideal in this case; however, the patient repeatedly declined. Reassuringly, his RPR titer trended down appropriately, and he showed no signs of dermatologic recurrence or neurologic impairment.

One of the clues to the diagnosis of lues maligna in this case was the patient's untreated HIV-1 infection. Before the HIV-1 epidemic, lues maligna was exceedingly rare, with only 14 cases reported in the 1900s through the early 1980s [4, 5]. The first case reported in an HIV-infected patient was in 1988 [7]. Cases have increased over the past 3 decades substantially, although it remains a rare presentation of secondary syphilis [4, 5]. It is interest to note that a case of lues maligna in a sexually active homosexual man in San Francisco was published by Fisher et al [3] in 1969, over a decade before the first published descriptions of HIV/acquired immune deficiency syndrome [8] and 9 years before the earliest cases of HIV-1 in California, according to recent phylogenetic estimates [9]. The source of this patient's immune compromised state was not clear at the time, begging the question of whether lues maligna was his only diagnosis.

CONCLUSIONS

It is unclear whether there is an association between HIV-1 positivity and lues maligna or whether the increase in cases is secondary to better case recognition and reporting [4–6]. Furthermore, how HIV-1 infection potentially predisposes patients to lues maligna remains poorly defined, because many of the reported cases are in patients with preserved immunity [2]. Regardless, multiple ulcerative cutaneous lesions in a patient with recent HIV-1 infection or risk factors for HIV-1

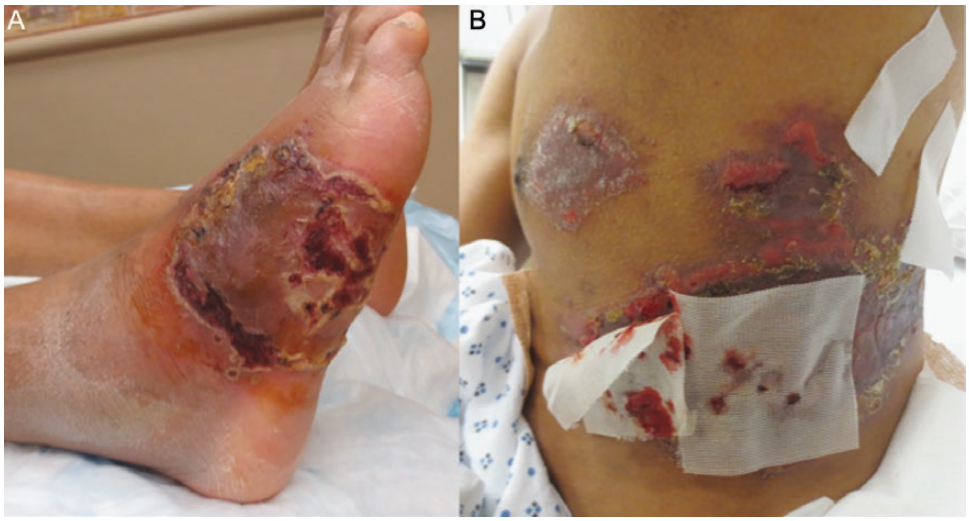

Figure 1. Photograph of patient's right foot (A) and left lateral chest (B) demonstrating ulcerated lesions with serosanguinous drainage and elevated, crust borders with minimal surrounding erythema.

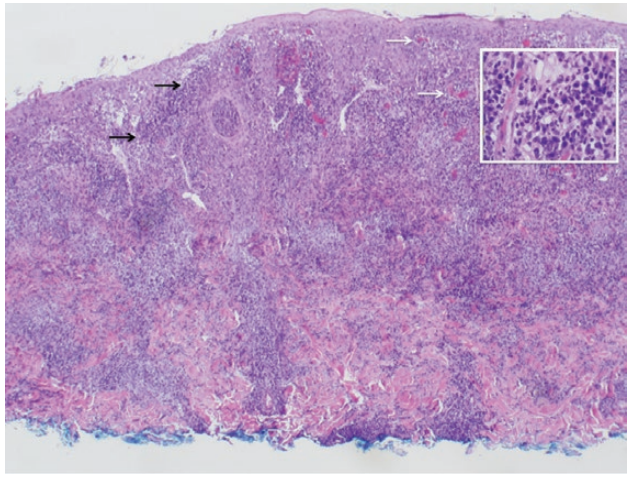

Figure 2. Low-power magnification of hematoxylin and eosin stain of left chest/back biopsy demonstrating surface parakeratosis, prominent lichenoid infiltrate (black arrows), endothelial hyperplasia (white arrows), and plasma cell abundance (inset, high power).

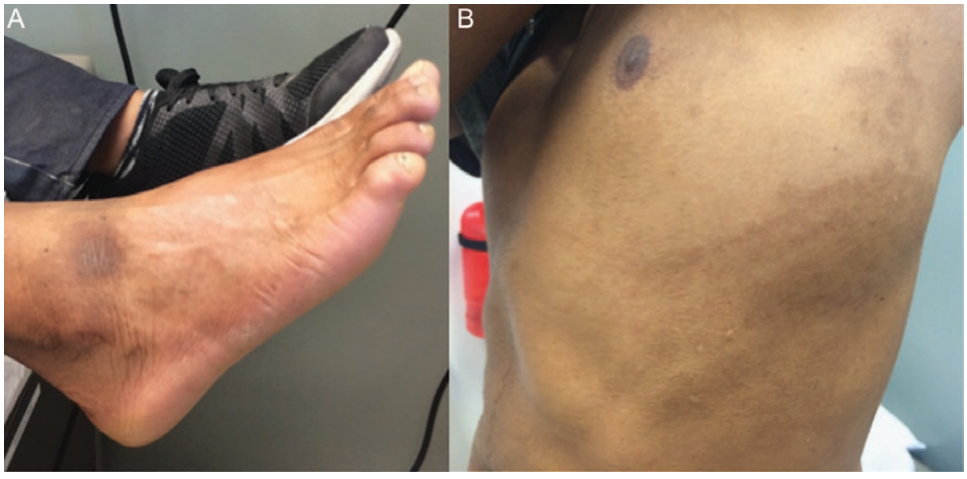

Figure 3. Photograph of patient's right foot (A) and left lateral chest (B) demonstrating near complete resolution of ulcerative lesions 6 months after treatment with intramuscular benzathine penicillin.

should always prompt investigation for lues maligna as well as HIV-1 infection if it has not already been diagnosed [4].

Acknowledgments

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