Multiple Erythematous Nodular Eruptions in a 32-year-old Man

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CASE REPORT

A 32-year-old single male came to us with asymptomatic nodular skin lesions on his trunk, inner arms, and legs. He lived near a pet store. The lesions had been present for two months. They initially appeared on the trunk and gradually spread to involve the limbs. Cutaneous examination revealed discrete erythematous papules and nodules on the abdomen (Fig. 1A), lower back (Fig. 1B), and limbs bilaterally but asymmetrically. The lesions were not tender, and they spared the mucous membranes, palms, and soles. The physical examination was otherwise normal. The white blood cell count was 6300/mm³ with 81% neutrophils (normal range 55-75%). A skin biopsy specimen was obtained from his abdomen (Fig. 2A, 2B).

Fig. 1
Discrete, erythematous papules and nodules on the abdomen (A) and erythematous nodules on the lower back (B).

Fig. 2
A (H & E, 200X), B (H & E, 400X)
Diagnosis: Nodular Secondary Syphilis

Microscopic Findings and Clinical Course

Tissue from a biopsy of a nodular lesion on the abdomen showed a wedge-shape dermal infiltrate of lymphocytes, plasma cells, histiocytes and occasional multinucleated giant cells. CD3 (+) T and CD20 (+) B cells in nearly equal proportions were distributed throughout the infiltrate. Most of the histiocytes and giant cells were CD68 (+). Stains for fungi (periodic acid-Schiff stain), mycobacteria (acid fast stain), leishmania (Giemsa stain) and spirochetes (Warthin-Starry silver stain) were all negative. The overall findings were consistent with a mononuclear-cell granulomatous dermatitis, secondary either to an infectious process or a lymphoproliferative disorder. A rapid plasma reagin test was reactive at a titer of 1:8, and the confirmatory Treponema pallidum hemagglutination test was positive at a titer of 1:640. A test for human immunodeficiency virus antibody was negative.

On further questioning, the patient admitted having had sexual intercourse four months earlier. He couldn’t recall any genital lesions. He was given 2.4 million units of benzathine penicillin by intramuscular injection. One week later, all of his nodular lesions had regressed, leaving some reddish macules. Based on the history, serology and the rapid response to penicillin, the final diagnosis was nodular secondary syphilis.

DISCUSSION

The cutaneous lesions of secondary syphilis are diverse, while the most being macular, maculopapular, papulosquamous, and annular. Nodular and pustular eruptions seldom occur.1 Since 1980, 12 cases of nodular secondary syphilis have been reported in the English literature.2-7 Most patients were male. The age of onset ranged from 22 to 66. The reported distribution of the nodules varied from diffuse to localized, and three of the patients had mucosal involvement. Over half have presented with lymphadenopathy. In addition to the nodular lesions, some patients also had papules or annular plaques, and some patients experienced pruritus. The response to treatment was the same as in more typical secondary syphilis.

One quarter of reported patients with secondary syphilis did not recall a chancre and the majority of patients have only had skin lesions.1 Even after repeated questioning, our patient could not recall any genital lesions, and he denied other constitutional symptoms except for mild malaise prior the eruption.

The histopathologic appearance of secondary syphilis is variable. The reported histological patterns in nodular secondary syphilis are mainly diffuse dermal infiltrates and a granulomatous inflammation.2-7 Granulomas may resemble epithelioid, sarcoid or tubercle lesions.

Nodular lesions are rare in secondary syphilis. However, it is imperative to diagnose syphilis in the secondary stage when it responds rapidly to treatment, rather than risk the possible progression to tertiary disease. Secondary syphilis should therefore be considered in the differential diagnosis of nodular skin lesions. A high index of suspicion and a careful sexual history, followed by serological tests, should lead to accurate diagnosis and prompt treatment.

REFERENCES