Scrotal Eczema-like Lesion of Secondary Syphilis in an HIV-positive Patient

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Sir,

Unusual clinical infections may be observed in patients with human immunodeficiency virus (HIV) infection (1). Due to diverse clinical and histopathological presentations, the diagnosis of syphilis can occasionally prove challenging (2). Secondary syphilis, which has protean manifestations in fully immunocompetent individuals, may present even greater diagnostic challenges in HIV seropositive patients. A variable clinical presentation of secondary syphilis in HIV disease may result in an incorrect diagnosis and treatment (3–6). We observed a case of scrotal eczema-like lesion of secondary syphilis with HIV infection with features not previously described.

CASE REPORT

A 34-year-old Asian man presented with well-demarcated erythematous plaque on the scrotum for 2 years and black-coloured macules on the left side of the scrotum for 6 months. He complained of severe itching and a tingling sensation. He had been diagnosed and treated as having scrotal eczema in the past. Slow progressive enlargement of the area was noted. Physical examination revealed a hyperkeratotic, lichenoid plaque on the scrotum and root of the penile shaft, and no lymphadenopathy in the groin area (Fig. 1). Potassium hydroxide smear exam was negative. He did not complain of any other symptom. A complete blood cell count was within normal limits and a complete chemistry panel was unremarkable, including urinalysis.

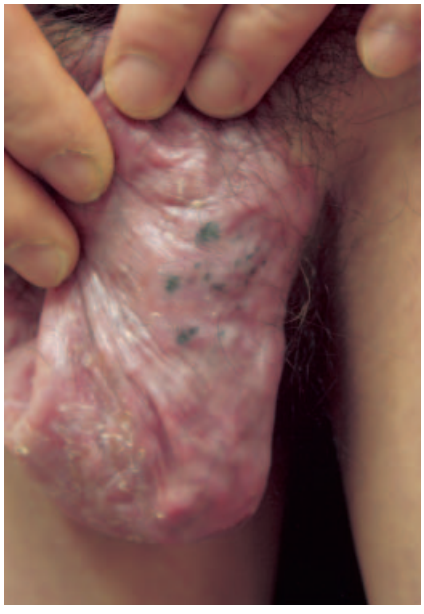

Fig. 1. Black-coloured macules on the left side of the scrotum.

Although the patient was treated for scrotal eczema with hydroxyzine 30 mg/day, prednisolone 15 mg/day and topical methylprednisolone aceponate 0.1% cream twice a day for 2 weeks, the skin lesions did not change or improve.

Two weeks later, two cutaneous biopsies were performed on the erythematous hyperkeratotic lichenoid plaque as well as a black-coloured macule. The biopsy specimen from the erythematous plaque showed acanthotic epidermis, with dense dermal mixed inflammatory cell infiltration mainly composed of plasma cells in upper dermis. The specimen from the black-coloured macule showed similar pathologic findings with dermal pigmentation (Fig. 2).

The serologic test revealed reactivity of the rapid plasma reagin test and fluorescent treponemal antibody tests and positive reaction of the VDRL test at a titre of 1:128. The HIV serology was positive by Western blot analysis. T-cell subset studies showed a decreased absolute $CD4^+$ cell count of 378.8 cells/mm^3 and CD4/CD8 ratio was also decreased (0.32).

Warthin-Starry stain revealed spirochaetes in the dermis of both specimens, which proved that the scrotal eczema-like lesion was secondary syphilis. The patient denied past history of blood transfusion or prior syphilis infection but confirmed sexual activity with many male partners.

The patient was treated with i.m. injections of benzathine penicillin (2.4 million units) weekly for 4

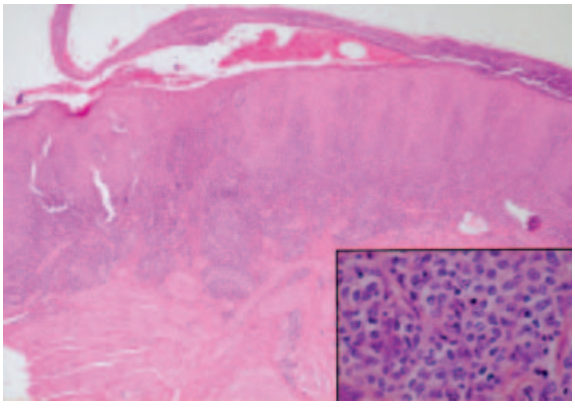

Fig. 2. Marked acanthosis with irregular elongation of rete ridge in epidermis with dense inflammatory infiltration in upper dermis (H&E, original magnification ×40). Inset: There is a mixed infiltrate of prominent plasma cells, lymphocytes and histiocytes around the vessel. The endothelial cells are swollen (H&E, original magnification ×400).

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weeks. After 3 weeks of treatment, the scrotal lesions were much improved. The titre of VDRL, however, was unchanged (1:128) after a further 4 months. Cerebrospinal fluid analysis was not performed due to the patient's refusal to undergo a lumbar puncture.

DISCUSSION

Secondary syphilis usually manifests 3–12 weeks after the appearance of a chancre, and recedes in 4–12 weeks (7). Skin eruptions develop in 80–95% of the cases. Over 95% of the eruptions are macular, maculopapular or papular lesions (7). Nodular and pustular eruptions are infrequent (7, 8). Mucosal lesions are extremely infectious and include condyloma lata, mucous patches and pharyngitis.

The cutaneous manifestations of secondary syphilis in HIV-infected patients are often associated with unusual clinical features. The likelihood of such manifestations is greater in HIV-infected patients with CD4 count <150 cells/mm^3(9). Oral erosions, nodules, papules, vesicles, hyperkeratotic plaques, papulosquamous and maculopapular eruptions have all been described (5). To the best of our knowledge, there have been no reports on secondary syphilis presenting an scrotal eczema-like picture.

The histological appearance of secondary syphilis is quite variable. Jeerapet & Ackerman (10) described the following histological patterns: 1) superficial perivascular dermatitis with epidermal hyperplasia, 2) superficial and deep perivascular dermatitis (with or without epidermal hyperplasia), and 3) dense diffuse dermatitis with plasma cell dominant or granulomatous infiltrate. Blood vessels typically show dilatation, thickening and hyperplasia of endothelial cells.

Despite these common findings, classical histopathological changes of syphilis are not always present (11). Plasma cells may be absent in the early stages and may appear later as the disease progresses (6). In this case, a diagnosis of secondary syphilis was not suspected on the basis of clinical presentation. However, it was confirmed by serological tests and was supported by the presence of numerous spirochaetes on Warthin-Starry stain.

There is still a lack of agreement on the treatment of patients with both syphilis and HIV. Much of the confusion arises from the lack of prospective trials (12). It has also been suggested that the currently recommended therapy in treating syphilis patients with HIV infection is inadequate (13, 14). Lukehart et al. (14) demonstrated that patients with HIV treated for secondary syphilis with only an injection of benzathine penicillin may still harbour viable *T. pallidum* in their cerebrospinal fluid.

In the past decade, many case reports have suggested that neurosyphilis with HIV may occur more frequently, progress more rapidly, and present with atypical signs. However, it is difficult to draw conclusions because conclusive data are not available (12).

This case emphasizes the importance of considering cutaneous secondary syphilis in the differential diagnosis of any inflammatory cutaneous disorder such as scrotal eczema, extramammary Paget's disease and allergic contact dermatitis in HIV seropositive individuals.

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