Acute Syphilitic Balanitis and Gross Penile Edema in an HIV-Infected Man

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Abstract: Syphilis presenting with balanitis and penile edema is rare, and in most cases has been considered to be a manifestation of primary syphilis. We report the case of an HIV-infected man who presented with penile edema and balanitis concomitant with an eruption on his buttocks, lower abdomen and thighs. Histologic examination and serology were diagnostic of syphilis, and the patient was successfully treated with benzathine-penicillin. Our case represents an unusual, infrequently reported presentation of secondary syphilis.

Keywords: Syphilis, secondary syphilis, balanitis, penile edema, HIV.

CASE REPORT

A 27-year-old HIV-infected man presented to the Emergency Room with a one-week history of gross penile shaft edema and an erosive balanitis, consisting of diffuse erythema of the glans with irregular crusted erosions (Figure **1**). There were pink well-demarcated papules surrounding the penile glans and one on the shaft (Figure **1**). He also had discrete, round, erythematous macules and thin plaques, many of which had an overlying thin rim of scale characteristic of Biette's collarette, on the lower abdomen, buttocks, scrotum, and thighs (Figure **2**). Several round hyperpigmented macules were present bilaterally on his medial soles, but his palms were clear. Non-tender inguinal lymphadenopathy was palpable bilaterally.

Past medical history included condyloma and gonorrhea. He last engaged in sexual intercourse with a man 3 months earlier. Four weeks later he developed fever, diarrhea and myalgias, which resulted in a diagnosis of acute HIV infection. Syphilis serologic tests were negative. Two weeks prior to the appearance of the skin lesions, he had been started on Complera (emtricitabine/rilpivirine/tenofovir) and raltegravir).

Histologic examination of a 4-mm punch biopsy from a thin plaque on the right thigh demonstrated a superficial and deep perivascular inflammatory lymphohistiocytic infiltrate with numerous plasma cells, some neutrophils and rare eosinophils. The epidermis was hyperplastic with parakeratosis and vacuolar alteration at the dermoepidermal junction. An immunostain for *Treponema pallidum* revealed many spirochetes within the epidermis and some within the superficial dermis (Figure **3**).

Figure 1: Erythema and swelling of the glans penis and penile shaft with well-demarcated oval hypopigmented papules, and right thigh with oval thin plaque with a collarette of fine scale.

Serologic re-evaluation showed reactive IgG and MHA-TP with an RPR of 1:8. He was treated with one dose of 2.4 million units of long-acting benzathine-penicillin intramuscularly with resolution of all cutaneous manifestations.

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Figure 2: Thighs with discrete, round, erythematous macules and plaques.

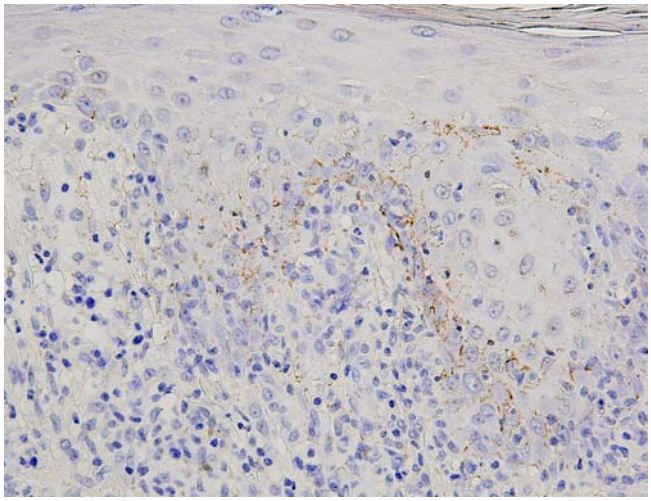

Figure 3: Immunostain for *Treponema pallidum*. Many spirochetes are visible within the epidermis and some within the superficial dermis; 400x magnification.

DISCUSSION

Gross penile edema and syphilitic balanitis are exceedingly rare manifestations of syphilis, especially in the secondary stage. In a study of 219 men with balanitis, no cases were caused by syphilis [1]. All 9 reported cases of syphilitic balanitis since Follmann described the first case in 1948 occurred in primary syphilis. Two cases developed after the appearance of the primary chancre [2, 3]. In three cases, a salient clinical feature was “cardboard-like” induration of the glans penis [3]. Although most cases of syphilitic balanitis have been considered to be a manifestation of primary syphilis, this was not the case in our patient [2, 3]. Furthermore, secondary syphilis lesions have rarely manifested at the time when signs of primary syphilis were still present; however, in our case all lesions developed simultaneously.

Even though our patient did not report a chancre, such lesions are found less often by men who have sex with men, as they may appear in the anal or oral areas [4]. Notably, one study found that HIV-infected persons present more often (58%) in the secondary stage of syphilis than HIV-seronegative persons (34%) and that chancres are more likely to persist into the secondary stage in co-infected persons [5]. Furthermore, since the sensitivity of nontreponemal serologic tests may be lowered in HIV-infected persons, darkfield examination is essential in patients who test serologically negative but remain clinical suspect, like our patient [6].

Acute penile edema can be caused by infection, vigorous sexual intercourse or fellatio, contact dermatitis, injury, filariasis, lymphocoele, paraphimosis, drug eruption, insect bite, or carcinoma [7]. In our patient’s case, the penile edema occurred in the context of other manifestations of secondary syphilis and resolved after penicillin treatment.

Our case indicates that balanitis and penile edema can be the presentation of secondary syphilis.

DISCLOSURES

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