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An Unusual form of Cutaneous Syphilis

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Abstract

A 42-year-old HIV-positive male (viral load < 20 copies/ml and CD4+ count 210 cells/mm3) was examined by his physician due to the appearance of two indurated and elevated skin lesions with inflammatory margins and a desquamative surface. There were no systemic manifestations. The laboratory tests revealed an RPR titer of 1/1024 and a biopsy identified a predominantly perivascular lymphoplasmacytic infiltrate. Papular-nodular syphilis manifestations require a differential diagnosis with malignant syphilis, tertiary syphilis and skin tumors.

A 42-year-old male consulted due to the appearance of two skin lesions on the anterior surface of the right flank and on the central dorsal region. The lesions had grown over the last 2-3 weeks, were not painful and caused only mild itching. There were no systemic manifesta-tions. At exploration, the lesions were found to be indurated and elevated, measuring 2 x 1.8 cm and 5 x 3.3 cm in size, with an inflammatory margin and a desquamative surface (Figure 1). The general exploration revealed no other alterations.

Personal history: No toxic habits, homosexual with multiple partners. Diagnosed with HIV infection 10 years ago, with nadir CD4+ count < 100 cells/mm3. Subjected to treatment with Atripla (efavirenz/tenofovir/emtricitabine), with current CD4+ count 198 cells/mm3. The HIV viral load has been < 20 copies/ml for over two years. Serological testing proved positive for syphilis at diagnosis of HIV infection, with a serum rapid plasma reagin (RPR) titer of 1/2048 ten years ago. Treatment was provided in the form of intramuscular penicillin 2.4 million IU during three weeks, with subsequent control titers of 1/120 and 1/4. Two years after the diagnosis of HIV infection, on occasion of a routine control, the titer was found to be 1/16348; admission for lumbar puncture was therefore decided, with normal cerebrospinal fluid findings and a weakly positive VDRL test result. Intravenous penicillin was administered for 15 days. Since then the RPR titers decreased to 1/16 at four determinations in the course of the last two years - the latest measurement being made four months before the current episode. There were no other opportunistic infections.

Figure 1. Indurated and elevated lesion in the back.

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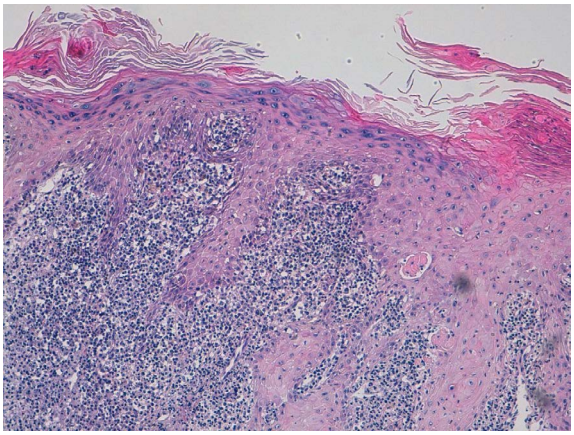

Figure 2: Biopsy of the Skin with a Predominantly Perivascular Lymphoplasmacytic Infiltrate and no Granulomas.

In the current episode the laboratory tests revealed an RPR titer of 1/1024, with a viral load of < 20 copies/ml and a CD4+ count of 210 cells/mm^3. The cerebrospinal fluid cytological and biochemical findings were normal, and VDRL testing proved negative.

A biopsy of the skin lesions showed no malignancy, with a predominantly perivascular lymphoplasmacytic infiltrate and no granulomas - these findings being suggestive of syphilis, though Warthin-Starry and Treponema immunohistological staining proved negative (Figure 2). Mycobacterium tuberculosis culture and PCR testing proved negative. The lesions gradually improved with penicillin 2.4 million IU every week for three weeks, leaving a flat, hyperpigment-ed scar.

Serological HIV testing of the current partner of the patient proved positive, with an RPR titer of 1/64. Intramuscular penicillin was likewise prescribed in this case.

Diagnosis: Cutaneous Syphilis

Comments

Syphilis has a range of cutaneous presentations in its different evolutive phases, particularly in HIV-infected individuals. Papular-nodular manifestations such as those seen in our patient require a differential diagnosis with other infections or with skin tumors, Kaposi sarcoma, keratoderma, etc. [1].

In our case the differential diagnosis comprised malignant syphilis and tertiary syphilis. Malignant syphilis [2,3] is characteristic of the secondary phase of the disease and is generally accompanied by systemic manifestations, with the presence of numerous treponemes at im-munohistochemical staining, and exhibits an aggressive clinical course, with multiple crusted lesions tending towards early ulceration. It is predominantly observed in untreated patients with advanced-phase HIV infection. Treatment can trigger a Jarisch-Herxheimer reaction.

In contrast, tertiary syphilis [4,5], such as cutaneous syphilitic gumma, takes a slower course and is characteristic of patients with a preserved general condition. It tends to show central healing, with possible immune reaction to reinfection in already sensitized patients. The histological study could reveal the presence of granulomas, but treponemes are rarely detected. The clinical vignette presented here looks like this form of presentation, though the distinction between different forms of cutaneous syphilis is subject to some controversy. Three weeks of penicillin therapy suffices to resolve the lesions.

In our patient the laboratory tests, histological findings and dramatic response to penicillin support the diagnosis of this unusual form of cutaneous syphilis.

In sum, syphilis is a great imitator, and should be kept in mind in all cutaneous lesions in and HIV-infected patients. Serological confirmation testing and biopsy could be necessary to establish the diagnosis.

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