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Lepromatous nodular syphilis: A case from Italy

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Dear Editor,

We observed an interesting case of nodular secondary syphilis with a lepromatous appearance in an HIV-naïve to therapy 48-year-old Caucasian male. The patient disclosed homosexual intercourse in august and complained of painless and mild itching pink-brown papulonodular lesions symmetrically distributed, which occurred in November and scattered on the face, neck, and trunk without mucous membrane, genital, and palmoplantar involvement. She took corticosteroid medications due to a private dermatologist's suspicion of an allergic reaction.

He didn't have any improvement, and considering the dimensions and number of lesions increase, he presented to Emergency Department in December.

We evaluated the patient and suggested that HIV and syphilis serology be performed due to a history of unprotected sexual intercourse. Both tests were positive (rapid plasma reagin reactive in 1:8). A Fondus oculi examination was performed because the patient complained of ocular symptoms, uncovering a picture suggestive of right optic papillitis.

We proposed hospitalization, and he was admitted only after two weeks because of his will. He was apyretic without constitutional symptoms. Regional lymphadenopathies were absent. Blood exams were unremarkable, except for a mild C-reactive protein increase (47.7 mg/L, normal <5). Skin lesions had become more prominent (up to 1.5 cm in diameter) and had assumed a lepromatous aspect (Fig. 1 A, B). Brain MRI showed bilateral neuritis. Lumbar puncture was unremarkable. Opportunistic infection screening was negative. Basal HIV viral load and CD4 T cell count were 18,800 copies/ml and 419 cells/μL, respectively. Skin biopsy highlighted perivascular lymphohistiocytic infiltration and granulomas formation (Fig. 1 C, D). Intravenous penicillin was administered with progressive lepromatous-like nodules reduction and ocular symptoms disappearance. Skin dyschromia without nodular lesions was observed at one month follow-up visit.

Syphilis is a forgotten disease, although reported cases of syphilis have been increasing over the past decade. It's defined as "The Great Imitator" because of the clinical picture heterogeneity with the possibility of every organ involvement. Skin lesions may be polymorphic and may go unrecognized. Nodular syphilis is a rare condition: a few cases are described in the literature in HIV-positive patients [1–3]. The large nodules, which primarily affected the upper half of the body, particularly the head and neck region, occasionally had a granulomatous appearance. The mucous membranes are frequently spared, and the palms and soles, typically afflicted with secondary syphilis, are generally absent in these patients [4]. In some cases, nodular lesions resemble lepromatous leprosy [1,2,5], and differential diagnosis is challenging in leprosy-endemic areas. We believe that the awareness of nodular syphilis condition is essential to discriminate it from leprosy in endemic regions. Clinical pictures and histologic patterns could be misleading. Granulomas are mycobacterial infection hallmarks, although they may be observed as non-caseating granulomas in nodular syphilis, while perivascular infiltration is associated with syphilis. Few or no spirochetes could be observed in granulomatous secondary syphilis, and delayed-type hypersensitivity has been suggested to be involved in lesion pathogenesis. Most nodular syphilises with granulomatous inflammation are from cases with a duration of greater than one month [6]. Palmoplantar and genital lesions absence could be equivocal and secondary syphilis could be misdiagnosed as leprosy. The differential diagnosis of nodular secondary syphilis also includes deep fungal infection, Kaposi sarcoma, bacillary angiomatosis, leishmaniasis, lymphoma, lymphomatoid papulosis, atypical mycobacteriosis, tuberculosis, and sarcoidosis. In our case, the diagnosis of syphilis was based on the positivity of the serological test and was confirmed by the rapid response to penicillin. Serology may be non-reactive for the prozone phenomenon, determining a diagnostic dilemma [7]. In conclusion, we think nodular syphilis deserves to be better known in those countries where leprosy is endemic, especially. Future studies will possibly have to address the mystery of its pathogenesis.

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CRediT authorship contribution statement

Luca Pipitò: Writing – original draft, Conceptualization. **Marcello Trizzino:** Revision original draft. **Elisabetta Orlando:** Edited the histological image. **Cinzia Calà:** Revision original draft. **Antonio Cascio:**

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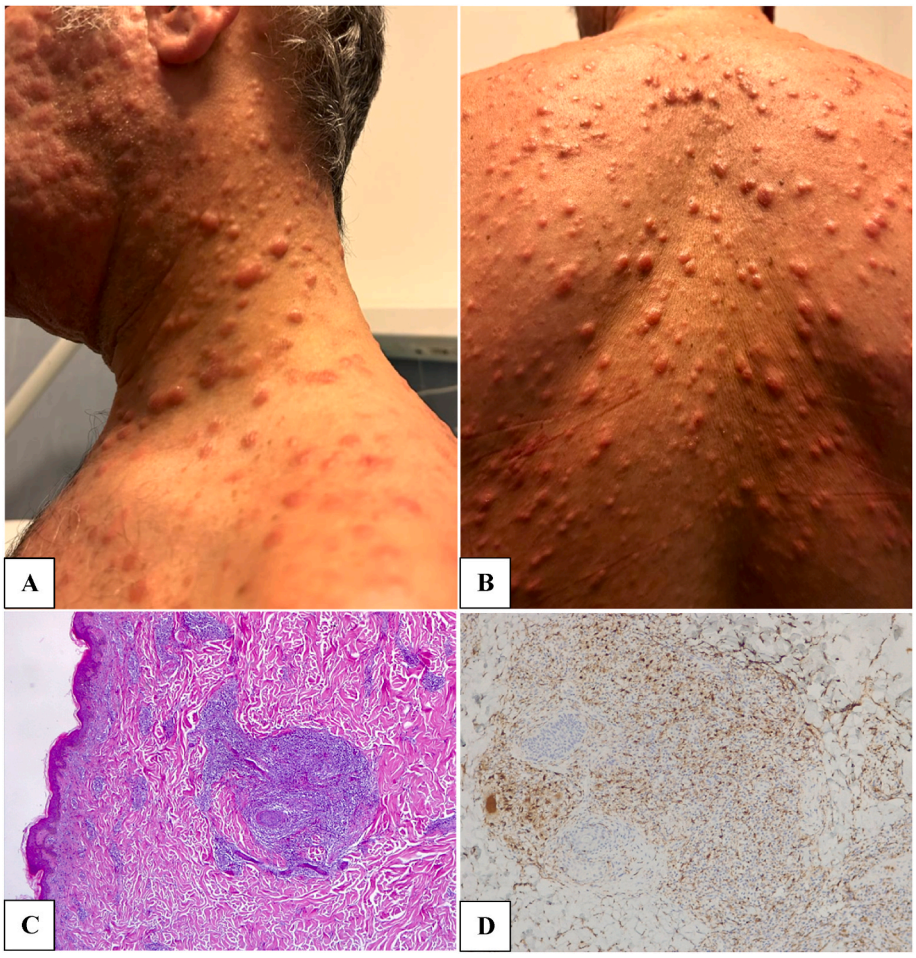

Fig. 1. A–B: Disseminated skin nodular lesions on the neck and on the dorsum; C: perivascular lymphohistiocytic dermal infiltration and granuloma formation (Hematoxylin & Eosin x 10); D: histiocyte hyperplasia with granuloma formation (CD68 immunohistochemical staining x 10).

Conceptualization, Revision original draft. All authors have read and agreed to the published version of the manuscript.

Declaration of competing interest

Nothing to declare.

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