

QUIZ SECTION

Single Nodular Lesion on the Scalp: A Quiz

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A healthy 46-year-old man presented with a raised skin lesion on his scalp that had been present for a month. He reported no pruritic symptoms or pain. The lesion was a 1 × 1 cm single erythematous scaly nodule on the occiput (Fig. 1a). Further physical examination revealed no other visible lesions on the skin or mucosa. The patient's medical history was non-

contributory. A skin biopsy specimen showed hyperplasia in the epidermis and dense perivascular and periadnexal infiltration of inflammatory cells, including plasma cells and other lymphocytes, whose pattern was nodular (Fig. 1b).

What is your diagnosis? See next page for answer.

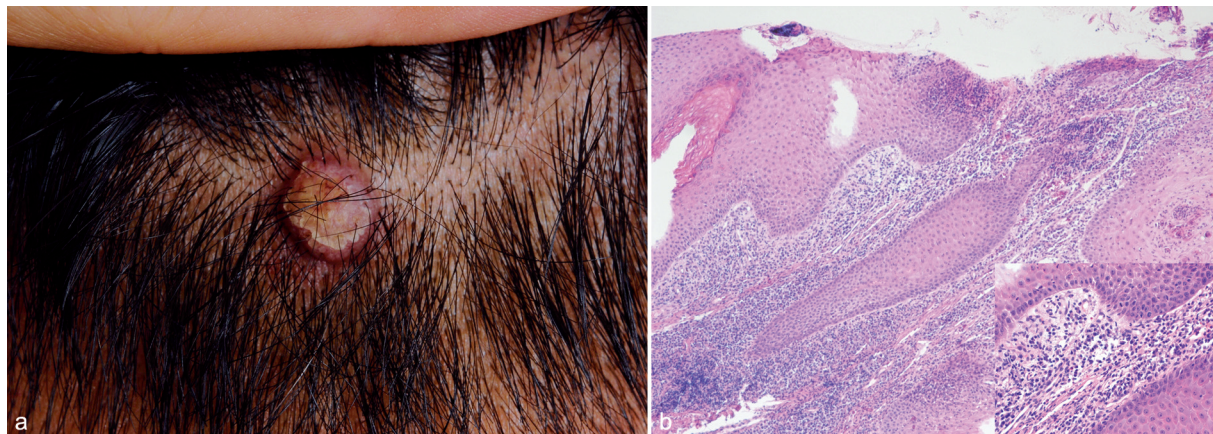


Fig. 1. (a) Initial presentation. A single erythematous, scaly nodule on the occiput. (b) Papillomatosis and acanthosis of the epidermis and a dense lichenoid lymphoplasmocytic infiltrate filling the dermis (haematoxylin-eosin stain; original magnification ×100; inset, ×400).

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ANSWERS TO QUIZ

Single Nodular Lesion on the Scalp: Comment

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Diagnosis: Nodular Secondary Syphilis

Suspecting syphilis because of the plasma cell infiltration, a Venereal Disease Research Laboratory (VDRL) test was performed. The VDRL titer was 1:128. In addition, assays for fluorescent treponemal IgG/IgM absorption and *Treponema pallidum* hemagglutination (TPHA) were positive. In contrast, serologic tests for human immunodeficiency virus (HIV) and rheumatoid factor were negative. All other parameters measured were within normal limits, except for erythrocyte sedimentation rate, which was elevated (53 mm/h). Immunohistochemical analysis with a rabbit polyclonal anti-*T. pallidum* antibody (diluted 1:100) (Biocare Medical, Concord, CA, USA) revealed the presence of numerous spirochetes in the epidermis and at the dermoepidermal junction (Fig. 2a). However, the patient refused

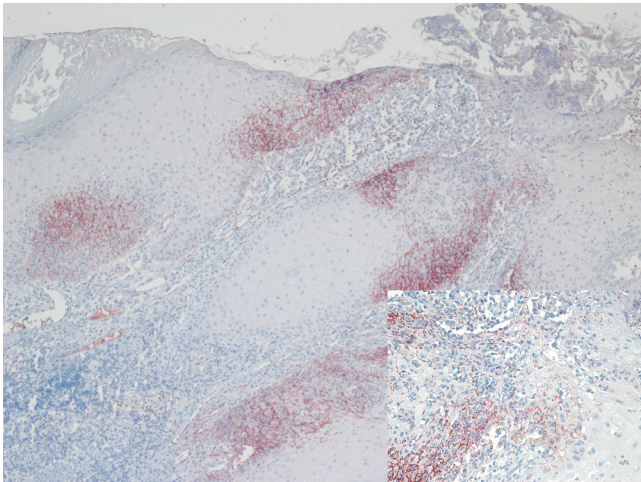


Fig. 2. (a) Presence of *T. pallidum* in the lesion. Immunohistochemical detection of *T. pallidum* revealed the presence of numerous microorganisms, particularly in the inner regions of the epidermis and at the dermoepidermal junction (original magnification $\times 100$; inset, $\times 400$).

to discuss his sexual history. The skin lesion cleared after a single intramuscular injection of benzathine penicillin G (2.4 million U). The VDRL titer decreased 4-fold in the subsequent 3 months.

Presentation of nodular secondary syphilis is rare, with only a handful of reports, and lesions being typically described as multiple red or purple nodules (1). Among the different diagnoses reported were cutaneous lymphoproliferation (lymphomas and pseudolymphomas), sarcoidosis, leprosy, foreign-body granuloma, deep fungal infection, cutaneous tuberculosis, and even cutaneous metastasis (2). Syphilitic lesions in HIV patients may occur in atypical forms (3). This patient, an HIV-negative immunocompetent host, presented with a single nodule mimicking a verruca or nevus.

While nodular lesions are usually a manifestation of tertiary syphilis, they have also been described in secondary syphilis. Nodular eruption of secondary syphilis may be localized and tends to affect the face, mucous membranes, palms and soles. Scaling may be present. The lesions typically do not form a specific pattern, although an annular configuration may be noted. The clinical features and histopathology of secondary and tertiary syphilis overlap, and distinguishing these two stages using standard diagnostic criteria is sometimes impossible (4). Nodular secondary syphilis is especially important in light of the fact that it may be the precursor to tertiary syphilis, which is a potentially morbid condition.

REFERENCES

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