Erosive lesions with oat-flake-like scaling in a seborrheic pattern

An otherwise healthy 52-year-old man presented with a 1-month history of superficial erosive, confluent plaques with overlying haemorrhagic crusts. The lesions were distributed in a seborrheic pattern affecting the trunk, forearms, glabellar area, and nasolabial and retroauricular folds. Some presented with oat-flake-like scaling on the surface and secondary bacterial superinfection [Figures 1 and 2]. The mucosae palms, and soles were spared. No intact vesicles or blisters were observed, and the Nikolsky sign was negative. There was no past history of chancre. The patient was sexually active and had no prior history of sexually transmitted diseases. He denied any recent high-risk sexual practices,

A skin biopsy and serology for autoantibodies associated with blistering diseases were performed. The patient was empirically treated with 30 mg of prednisone daily with no clinical improvement. Histopathology of skin lesion revealed a lichenoid infiltrate with exocytosis of polymorphonuclear neutrophils in the epidermis. In the dermis, abundant plasma cells obscured the dermo-epidermal junction (DEJ). These cells infiltrated the superficial dermis, in a perivascular and perifollicular manner [Figure 3]. Autoantibodies for blistering diseases were negative.

Question

What is the diagnosis?

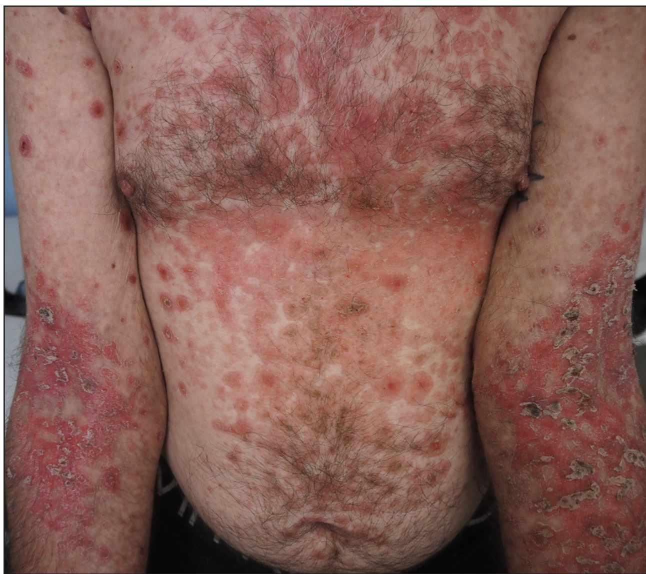

Figure 1: Erosions and crusts, some with an oat-flake-like scaling, on the arms and trunk of a male patient.

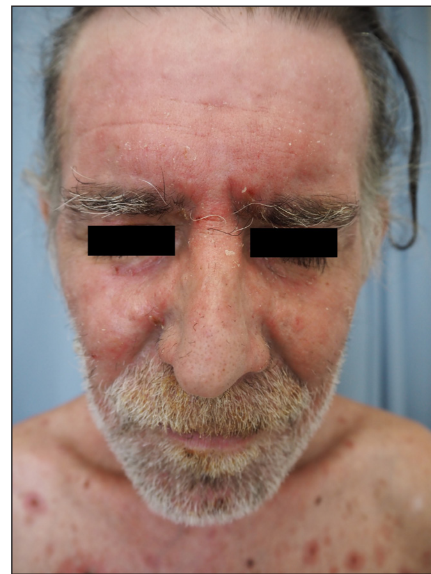

Figure 2: Erythema and scaling involving the nasolabial folds and glabellar area.

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Answer

Diagnosis: Secondary syphilis.

Discussion

The diagnosis of secondary syphilis was confirmed with positive immunohistochemical (IHC) staining using anti-*Treponema pallidum* antibody [Figure 4]. The non-treponemal test (RPR) was positive (1:16) and confirmed by a treponemal test. Serologies for HCV, HBV, and HIV were negative.

The patient received treatment with a single dose of 2.4 million units of intramuscular benzathine penicillin, which led to complete resolution of lesions within one month. The non-treponemal test (RPR) became negative after 6 months.

Syphilis is a sexually transmitted infection caused by the spirochete *Treponema pallidum* subs. *pallidum*. Its prevalence has increased notably in recent years, particularly among men who have sex with men and HIV-positive individuals.

The clinical presentation of secondary syphilis is highly variable, the most common being a diffuse, non-pruritic, papulosquamous rash, along with lymphadenopathy.[1] It typically affects the palms and soles and may be associated with flu-like prodromal symptoms. The mucous membranes may be unaffected or present erosive lesions. In HIV-positive patients, nodular or ulcerative lesions (malignant syphilis) are more common.[2] Our patient presented with erosive lesions with oat-flake-like scaling in a seborrheic distribution, without systemic or mucosal involvement, resembling pemphigus foliaceus. Although a wide spectrum of syphilitic manifestations has been reported in the literature, generalised erosive lesions are uncommon, particularly in HIV-negative patients. These lesions can mimic other conditions, including subcorneal pustular dermatosis, pemphigus foliaceous, subacute cutaneous lupus erythematosus, seborrheic dermatitis, bullous impetigo, or lymphomatoid papulosis.

While laboratory tests generally confirm the diagnosis of secondary syphilis, histology can be highly useful in certain cases, such as HIV-positive cases or those with atypical clinical presentations. Macular lesions are characterised by a sparse perivascular lymphohistiocytic infiltrate with few plasma cells. In papular lesions, the infiltrate may appear as a band with abundant plasma cells and epidermal changes such as parakeratosis, acanthosis, spongiosis, and exocytosis. Some of these findings may resemble other entities such as lymphomatoid papulosis or other lymphoproliferative disorders; however, the distribution of the infiltrate, assessment of cellular clonality, and the immunophenotypic profile are essential steps for establishing the correct differential diagnosis. According to Flamm *et al*.[3] the most frequent histologic findings of secondary syphilis include an interstitial inflammatory pattern, endothelial oedema, irregular acanthosis, and elongation of epidermal ridges. The localisation of spirochetes, either with silver staining techniques or anti-*T. pallidum* antibodies, help determine the infection stage; they populate the dermis in perivascular distribution in primary syphilis and extensively in the epidermis in secondary syphilis.[4,5]

We report an unusual manifestation of secondary syphilis in an HIV-negative patient, presenting as erosions and crusts in a seborrheic distribution. It is essential to consider syphilis among the differentials for such lesions, to avoid diagnostic delays and inadequate treatments.

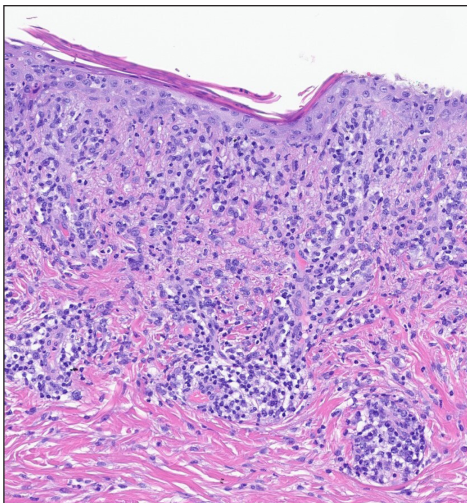

Figure 3: Lichenoid infiltrate with exocytosis of neutrophils in to the epidermis, with abundant plasma cells at the dermo-epidermal junction. (Haematoxylin and eosin, 100x).

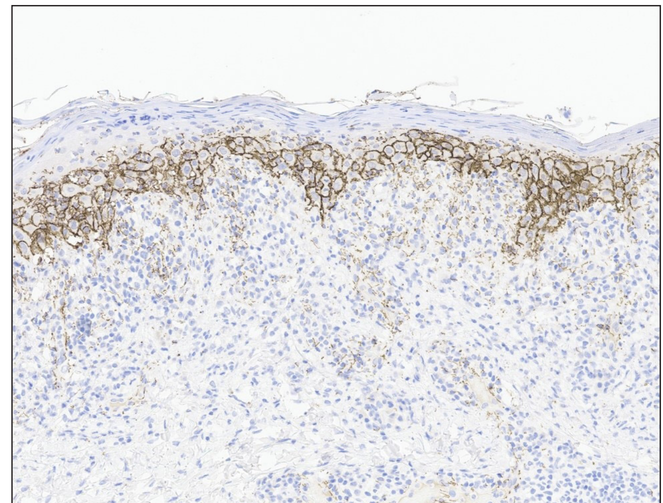

Figure 4: Immunohistochemical staining using anti-Treponema pallidum antibody, 60x.

Declaration of patient consent: The author certify that they have obtained all appropriate patient consent forms. In the form, the patients have given their consent for their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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