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A Case Report of Secondary Syphilis with Eosinophilic Spongiosis in an Human Immunodeficiency Virus Patient

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Dear Editor:

A 47-year-old male presented with a 1-month history of asymptomatic localized eruption of papules and pustules of varying sizes on his face (Fig. 1) and a history of latent syphilis and human immunodeficiency virus (HIV) co-infection 5 years prior to visiting our clinic. He was treated with benzathine penicillin for syphilis and showed a successful serological response. Furthermore, after anti-retroviral therapy for HIV, he was in a well-controlled state with stable CD4+ T-cell count and minimal HIV viral load. Although he denied recent unprotected sexual contact, dermatosis associated with syphilis was suspected and skin biopsy was done from the most prominent lesion of forehead. Histopathologically, hyperkeratosis and spongiosis with eosinophilic exocytosis was observed in the epidermis (Fig. 2A). Mixed inflammatory cell infiltration with lymphocytes, plasma cells, and eosinophils was found in the superficial and mid-dermis (Fig. 2B). Serological evaluation revealed an increased veneral disease research laboratory (VDRL) titer (1:512). Based on these findings, secondary syphilis was diagnosed, and the patient was treated with 2.4 million units of benzathine penicillin. His lesions gradually improved with complete clearance achieved within 1 month, and the VDRL titer decreased to 1:32.

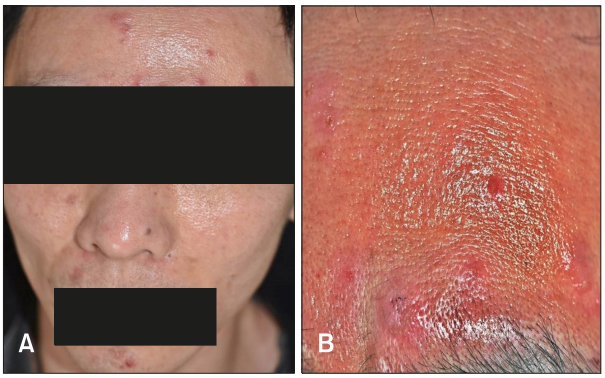

Fig. 1. (A) Erythematous, indurated papules and pustules of varying sizes localized on the face (forehead, cheeks, and chin). (B) A closer view (we received the patient's consent form about publishing all photographic materials).

Syphilis mimics the clinical presentation and histopathology of other skin disorders, making it difficult to distinguish it from lichenoid dermatitis, psoriasis, and connective tissue diseases in cases with an atypical presentation with plasma cell absent from the histopathology. Serology is, thus, essential to make a correct diagnosis. Although the patient denied unprotected sex, reinfection with syphilis was suspected. Reactivation of syphilis after successful treatment has been reported[1]. In such cases, re-screening for syphilis may be helpful to detect reinfection in high-risk patients[2].

Eosinophilic spongiosis (ES), with eosinophils infiltrating into a spongiotic epidermis, has been observed in autoimmune bullous disorder, chronic eczema, and contact dermatitis[3]. Due to the heterogeneity of etiology, it is not specific for any diseases. Although previous studies have not discussed syphilis in the differential diagnosis of ES as tissue eosinophilia in syphilis is an uncommon finding, Park and Kim[4] reported a case of secondary syphilis with

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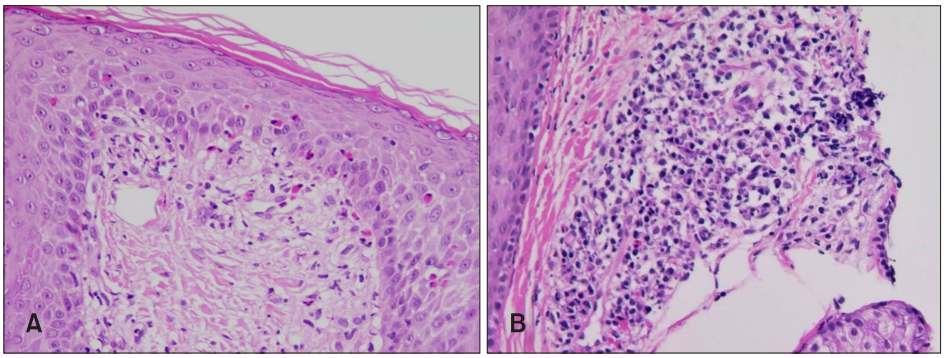

Fig. 2. (A) Spongiosis in the epidermis with exocytosis of eosinophils and lymphocytes were observed (H&E, ×200). (B) Dense perivascular infiltration of the plasma cells was observed (H&E, ×200).

numerous eosinophils and Rosa et al.[5] reported four cases of eosinophil-rich syphilis, with HIV co-infection identified in two of the cases.

In conclusion, an atypical clinical presentation with a biopsy showing ES and typical histopathological features of syphilis in our case emphasizes that clinicians must have a high index of suspicion for syphilis. Serology is an essential part of the diagnosis and screening. Moreover, re-screening for syphilis after treatment can be useful for the early detection of relapse and reinfection, especially in high-risk patients. Further research is needed to identify the exact role and clinical meaning of tissue eosinophlia in syphilis.

CONFLICTS OF INTEREST

The authors have nothing to disclose.

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