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Answer to the photoquiz: Generalized violaceous papulosquamous eruptions in an HIV-positive female

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DIAGNOSIS

Our patient had secondary syphilis. Syphilis is an infectious disease spread by sexual contact or vertical transmission of the spirochaete *Treponema pallidum*. Our patient demonstrated significant risk factors for syphilis transmission, including high risk sexual behavior, prior sexually transmitted diseases, and HIV infection.

Other risk factors for syphilis infection include intravenous drug use and men who have sex with other men. There was a positive Buschke-Ollendorff sign, which is tenderness on pressure with a blunt object, and it is strongly associated with secondary syphilis[1]. Syphilis, particularly secondary syphilis, is often called the great imitator, since it has a high variation of clinical manifestations. Secondary syphilis initially presents as a transient macular rash which is usually undetected. After a few days, a diffuse, well-defined papulo-squamous eruption appears on the entire trunk and extremities, including palms and soles[2]. The rash is most commonly scaly but can appear smooth, follicular, or pustular[2]. Mucosal involvement is common and often presents as slightly raised oval plaques with a white-gray pseudomembranous or multiple macules that coalesce into serpiginous lesions[2].

HIV and syphilis co-infection rates have steadily risen, and infection with syphilis has been shown to increase the risk of HIV transmission in high-risk populations[3]. The clinical manifestations of syphilis can vary based on HIV status. Primary syphilis symptoms appear 10 to 90 days after *T. pallidum* exposure. This presents as a chancre, a single painless ulcer with indurated margins[3]. HIV-positive patients may have multiple chancres in the genital or anal areas. Like our patient, females may have asymptomatic genital lesions that go unnoticed. Therefore, clinical suspicion should remain high in sexually active young females.

In addition, our patient developed a constant and severe headache which started at approximately the same time she noticed her rash. Headache is a commonly associated symptom with secondary syphilis and may be dull, slight, paroxysmal, or severe. Syphilis-associated headaches appear to have a predilection for localizing, especially in the frontal region, as demonstrated by our patient and other cases in the literature[4].

Tertiary syphilis can present months or years after initial infection as cardiovascular syphilis, neurosyphilis, gummatous syphilis, and ocular syphilis[1]. The patient was poorly compliant with antiretroviral therapy, which is associated with an increased risk of early neurosyphilis[5]. The patient was treated with Benzathine penicillin 2.4 mU, and a workup was initiated for neurosyphilis owing to her constant headache. This case highlights the growing co-incidence of HIV and syphilis in patient populations.

Subacute Cutaneous Lupus Erythematous primarily occurs in young to middle-aged females[3]. Unlike our patient, most of the patients will have a history of photosensitivity. Lesions can be annular with central clearing or papulo-squamous. The annular subtype presents as erythematous, annular scaling plaques with central clearing that coalesce into a polycyclic array. The papulo-squamous subtype presents as scaly plaques coalescing into a retiform array resembling psoriasis[6].

Rocky Mountain spotted fever is caused by *Rickettsia rickettsiae* and should be considered in petechial rashes that involve palms and soles. *Rickettsia rickettsiae* is spread by the Dermacentor variabilis tick. It is most prominent in patients who spend a lot of time outdoors in the south-central and the southeastern United States. The rash spreads centripetally and spares the face. In contrast, our patient's rash was violaceous with a coppery hue rather than a petechial rash. Furthermore, our patient's rash involved the face, and she did not have a history of extensive outdoor activities[7].

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Lichen Planus presents as itchy polygonal, violaceous, flat-topped papules with white lacy lines along the flexor surfaces. Oral mucosa involvement is seen in over half of *Lichen Planus* cases, and is often the presenting sign of disease. The most common subtype of oral involvement is reticular. Reticular *Lichen Planus* manifests as asymptomatic, white lacy lines on the bilateral buccal mucosa. Other subtypes of oral *Lichen Planus* include erosive, papular, plaque-like, atrophic, and bullous. *Lichen Planus* that involves the vulva or vagina appears erosive with subsequent scarring and strictures. Annular configurations are common in glans penis involvement[8].

CONCLUSIONS

Syphilis infection has been well-described in high-risk groups, especially in men who have sex with other men. Syphilis and HIV co-infection rates have been on the rise in recent decades, and infection with syphilis has been shown to increase the risk of HIV transmission in high-risk populations. Our case highlights the importance of maintaining a high clinical suspicion for secondary syphilis in high-risk patients with generalized violaceous papulo-squamous eruptions. Urgent diagnosis and treatment are needed to avoid progression to tertiary syphilis.

Informed Consent:
Informed consent and approval were obtained from the patient described in the manuscript.

Conflict of Interest:
The authors declare no conflicts of interest.

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