Secondary syphilis with granulomatous histology. A diagnostic challenge

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Summary

Secondary syphilis occurs within weeks to months after primary infection with the spirochete Treponema Pallidum. A diffuse symmetric macular and/or papular eruption involving the trunk and extremities, including the palms and soles is the most characteristic finding. Atypical histology may present a diagnostic challenge.

We report a 27-year-old woman with a one-year history of multiple scaly and erythematous macules and plaques over her torso, arms and legs. The biopsy showed sarcoid-like granulomatous histology. Further investigations failed to support a diagnosis of sarcoidosis and a subsequent TPHA test was positive confirming the diagnosis. Syphilis should be considered in any case of a diffuse macular or papular eruption, with granulomatous histology.

KEY WORDS: syphilis; granulomatous.

Case report

A 27-year-old female was referred by her GP with a rash which had evolved over the previous twelve months. The rash started on her arms and spread to her torso and legs in a patchy leopard print pattern. She described the rash as itchy with tender flares that settled spontaneously. Her GP initially diagnosed pityriasis rosea but it had not resolved with emollients over subsequent months.

Her past medical history included acne, anxiety and PTSD. Her only medication was the oral contraceptive pill. She was allergic to minomycin (hives) and possibly general anaesthetic (described anaphylaxis at a dentist appointment). She was studying nursing at university and had no relevant family history.

On examination she had multiple erythematous macules and plaques, some with mica scale over her torso, arms and legs (Figures 1, 2). On her face she had extensive acne excoriate with evidence of trauma, scarring and ongoing inflammation. Her scalp, face, mucous membranes, palms and soles remained clear (Figure 3).

Differential diagnoses included pityriasis lichenoides chronica, atypical psoriasis and cutaneous T cell lymphoma. An incisional biopsy was taken from her right arm and she was commenced on erythromycin 400 mg BD while awaiting the result.

The histopathology report confirmed dermal nodular granulomatous infiltrate, highly suggestive of sarcoidosis. Subsequent investigations were all normal; bloods including quantiferon gold, FBC, U+E, LFTs, calcium, phosphate and serum ACE, chest X-ray, PFTs, ECG and ophthalmology assessment.

Figure 1 - Maculopapular eruption of secondary syphilis.
Other granulomatous eruptions were then considered. Syphilis serology was strongly positive and she received appropriate treatment and underwent contact tracing at the sexual health clinic. On further review her rash improved and subsequently resolved. Following further discussion with the Pathologist, spirochaete immunostaining was performed on the initial skin biopsy and no spirochaetes were found. Further immunohistochemical studies in additional sections were performed on the biopsy after her eruption had cleared with penicillin, and spirochaetes were found within one of the granulomas (Figure 4). The final histopathology report confirmed that the appearances were in keeping with secondary syphilis.

Discussion

Syphilis, a systemic disease with a wide range of dermatological presentations, has been described as “the
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The secondary stage of syphilis has cutaneous findings in greater than 80% of cases (2). A high index of suspicion should be maintained when evaluating skin findings of uncertain aetiology (1, 3).

Although syphilis is thought to be a relatively uncommon presentation today, the World Health Organisation (WHO) estimates that worldwide in 2012, there were 18 million cases of syphilis in adolescents and adults aged 15 to 49, and 5.6 million new cases (4). The global incidence rate was 1.5 cases per 1000 females and 1.5 cases per 1000 males. In Western Australia, there were 1,441 notifications of infectious syphilis between 1991 and 2009 (5).

In this case, the initial clinical diagnosis by the GP was pityriasis rosea. The differential diagnosis of the subsequent macular papular eruption in Figures 1 and 2, included pityriasis lichenoides chronica, atypical psoriasis and cutaneous T cell lymphoma. The dermal nodular granulomatous infiltrate on biopsy was thought to be in keeping with sarcoidosis. Cutaneous tuberculosis and syphilis were later added to the list of differential diagnoses.

Although the histology of syphilis is frequently granulomatous in its tertiary stage, granulomatous inflammation in the secondary stage of syphilis is much more uncommon (3, 6-9).

This case illustrates the importance of excluding syphilis in either an atypical clinical presentation of what may initially appear a common inflammatory eruption such as pityriasis rosea, and in the case of granulomatous pathology of uncertain aetiology.

References