A Presentation of Chancre Redux in An HIV-Infected Patient

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ABSTRACT:

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Syphilis has been a major challenge in dermatology due to its various presentations and the fact that it's a great imitator of multiple diseases. One of the cutaneous manifestations occurring in the primary stage is typically described as a solitary, painless, clean-based ulceration with elevated border. Here by, we report a case of syphilis with genital ulcer in an HIV-infected patient after receiving treatment. Chancre redux from inadequate treatment or recurrent infection should be included in the differential diagnosis. Occasionally, a cutaneous lesion of syphilis appears with an atypical character, especially in immunocompromised patient. In this situation, differential diagnosis should be carefully made, because mistaken medical assumptions could easily happen.

Key words: Chancre redux, monorecidive syphilis, syphilis in HIV

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Introduction

Syphilis, a disease caused by *Treponema pallidum*, is mostly sexually transmitted[1]. Nonsexual acquired syphilis in adulthood can occur via blood transfusion and accidental inoculation, but this is very rare. In Thailand, syphilis is considered as a major sexually transmitted infection[2] with continuously increasing prevalence[3-5].

Clinical presentations of syphilis vary according to the stage of the disease: primary, secondary, late latent, and tertiary. However, cutaneous manifestations, which are recognized in the primary and secondary stage, often cause patients to seek treatment. One of the cutaneous manifestations occurring in the primary stage is chancre, which typically described as a solitary, painless, clean-base ulceration with an elevated border[1,3,6].

Diagnosis can be made by a combination of clinical suspicion and direct and indirect laboratory methods, including treponemal and non-treponemal tests. However, clinical suspicion could be missed and should be differential diagnosis due to its mimicking characters[1]. Benzathine penicillin is the recommended treatment for all stages of syphilis. A follow up of a four-fold decrease in the VDRL titer and clinical improvement after treatment indicates a cure. However, the serological response could be slow in immunocompromised host such as HIV infected patients[6].

Case presentation

A 37-year-old homosexual Thai male with an underlying disease of HIV infection with CD4 count of 405 cell/cm^3, visited Siriraj STD clinic with generalized well-defined erythematous to copper-colored macule involving palms and soles and few small verrucous papules on penile shaft and scrotum. He had a history of unprotected sexual intercourse with multiple sex partners. Blood exam was taken for TPHA and VDRL which later came back positive. He was diagnosed as secondary syphilis with genital wart. Single dose of benzathine penicillin G 2.4 million units was injected intramuscularly according to CDC guideline. For the treatment of genital wart, podophyllin and cryotherapy were regularly applied. At 3-month follow up visit, his VDRL titer declined from 1:128 to 1:64.

At 6-month follow up, a genital ulcer appeared on the shaft of penis. At first, his lesion was painful for a day, and then was asymptomatic. His last sexual intercourse with condom use was one month before the occurrence of ulcer, with multiple partners. Physical examination found a solitary round-shaped ulceration with a slough at the base and an elevated border on the shaft of the penis (Figure 1). He did not have any oral lesions. His

neurological exam was intact. No other abnormal clinical signs or symptoms were detected.

Figure 1 A painless ulceration with slough tissue on the shaft of penis at 6-month after intramuscular injection of benzathine penicillin G

The ulcer was scraped for dark-field examination. A spiral organism with corkscrew mobility was detected without any rod or cocci organism (Figure 2). His VDRL titer rose from 1:64 to 1:128 as the initial titer before treatment. The patient was treated with three doses of weekly benzathine penicillin G 2.4 million units intramuscular injection.

Two weeks after the treatment with benzathine penicillin G, the ulceration markedly improved (Figure 3). Upon follow up, the patient's VDRL titer had decreased fourfold within three months after treatment.

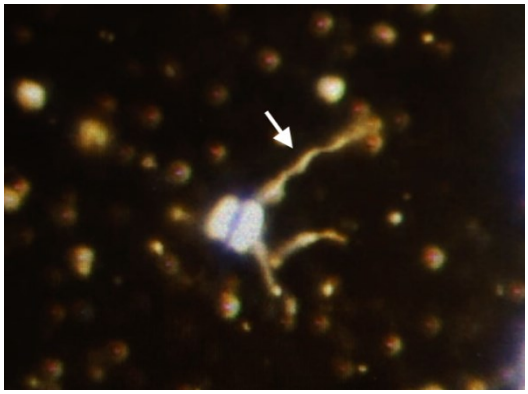

Figure 2 A scrape from the genital ulcer detected a moving spiral organism via dark-field microscopy

Figure 3 the genital lesion at 2-week after treatment

Discussion

When encountering a solitary elevated-border ulceration, syphilis must be included in the differential diagnosis. Although the lesion had atypical patterns, it is not uncommon in HIV patients because of the altered host immunity[7].

Initially, this patient presented with copper-colored macules on palms and soles with few small verrucous papules on penile shaft and scrotum which was diagnosed as secondary syphilis with genital wart. In secondary syphilis, condyloma lata–well-defined, moist, flat papules or plaque with macerated surfaces commonly found in intertriginous areas, can also be present. However, this patient had dry, verrucous papules on penile shaft and scrotum, therefore genital wart was more likely than condyloma lata. His penile papules didn't resolve after the treatment of syphilis and was treated with multiple sessions of podophyllin and cryotherapy. Subsequently, an ulcer developed on the shaft of penis as demonstrated in figure 1. Dark field examination demonstrated a spiral organism with corkscrew mobility.

In addition, when encountering a patient with genital ulcer evaluation for other possible bacterial and viral infections should be done such as gram stain, Tzanck smear. But in this case, herpes infection was less likely because he had a single genital ulcer rather than the usual presentation of herpes infection with multiple vesicles or erosions. Concurrent or superimposed infection with bacteria was still possible, hence topical antibiotic was prescribed.

From this case, the cause of genital ulcer with positive dark-field examination includes *monorecidive syphilis* or *chancre redux*. Clinically, chancre redux is a recurrent chancre on the previous site of healed original chancre of inadequately treated primary syphilis. Stroke and colleagues criteria for diagnosing chancre redux include chancre recurring at the previous site of original chancre within 12 months and positive serology at second presentation[8]. In this case, the patient has not recognized a genital ulcer before which chancre in primary syphilis is mostly painless therefore can be unrecognized in many cases. In addition, immunocompromised hosts such as HIV patients, like this case, may have slow immune response. Some experts recommend extended treatment with 2.4 million units of benzathine penicillin G intramuscular injection weekly for 2 more weeks[9]. Another cause of genital ulcer with positive dark-field examination is chancre from reinfection of syphilis. His last sexual intercourse with multiple sexual partners was one month previous. He stated that he used condom every time he had sexual intercourse including oral sex. Moreover, diagnosis of reinfection may need a fourfold increase in VDRL titer which was not presented in this case. So, re-infection could not definitely be diagnosed.

According to CDC, treatment failure is defined by failure of a fourfold decline in non-treponemal test titers within 6-12 months after treatment for primary and secondary syphilis[1]. Other criteria include a sustained fourfold increment in non-treponemal test titers[10]. This patient's VDRL at

initial diagnosis of secondary syphilis and at 3-month follow up were 1:128 and 1:64, respectively. At 6-month follow up which was the period he developed genital ulcer, his titer rose to 1:128 again. Therefore, the patient had not reached the criteria for treatment failure yet. Slow response of titer could be found especially in HIV infected patients[6]. Cerebrospinal fluid (CSF) examination was not performed in this patient, because treatment failure still had not been concluded at that period. Other indications for CSF examination in a person with syphilis include; neurological, ophthalmologist and ontological signs or symptoms, and evidence of active tertiary syphilis[6]. All his physical examinations were normal. He was closely monitored in case he had a four-fold increase of VDRL titers or failed to reach a fourfold decline of VDRL titers at 12 months after treatment. If the patient had treatment failure or neurological symptoms then CSF examination should be considered. This patient was treated with three doses of 2.4 million units of benzathine penicillin G intramuscular injection. Three months later, the patient's VDRL titer had decreased fourfold.

Conclusion

In this case report, we demonstrated genital ulcer that may be a chancre redux from syphilis in patients with HIV infection. When encountering a solitary elevated border ulceration in HIV patients previously treated with syphilis, chancre redux and chancre due to reinfection of syphilis should be included in the differential diagnosis. HIV patients have altered host immunity that affect clinical presentation and serological response of syphilis.

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