

An AIDS Patient With Recurrent Multiple Skin Crusted Ulcerations

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Case report

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Abstract

Background: Malignant syphilis is considered a rare disease, more commonly affecting individuals with poor immunity. We report a case of acquired immune deficiency syndrome with Repeated crusted ulcerations. Our report shows the typical skin lesions of malignant syphilis and a reinfection with the same rashes.

Case presentation: A 22-year-old homosexual male was admitted to hospital for fever and ulcerations with overlying brown–black rupioid crusts. Then he was confirmed human immunodeficiency virus infection. Malignant syphilis was diagnosed by positive markers and biopsy pathology. After application of benzathine penicillin for 3 weeks, the symptoms improved and rapid plasma regain (RPR) decreased from 1:64 to 1:4 in 8 months. But the patient appeared with rashes that was accurately the same with rashes before 13 months later and RPR rose to 1:128, that was likely to be re-infection after frequent sexual activity. And he responded well to doxycycline treatment.

Conclusion: Malignant syphilis is a rare form of secondary syphilis, but tends to occur in acquired immune deficiency syndrome patients because of poor immunity. Although the clinical manifestations of malignant syphilis are severe, the response to the therapy of penicillin and doxycycline are excellent, even with repeated infection.

Background

Malignant syphilis is an unusual ulcerative variation of secondary syphilis that is normally found in immunosuppressed patients. These ultimately form ulcers with raised edges and central necrosis and may be followed by rupioid crusts[1].

This study describes the case report of a 22-year-old man who discovers acquired immune deficiency syndrome (AIDS) and syphilis at the same time for presenting of fever and skin disseminated brown–black rupioid crusts compatible with malignant syphilis.

Case Report

A 22-year-old homosexual male presented with fever, maculopapules and blisters on his face, trunk, and extremities just after removing the nasal prosthesis 40 days before admitted into hospital. He had been diagnosed as chickenpox at an early stage, without special treatment, and the rash has not subsided. He had been treated with levofloxacin for a week, the temperature gradually decreased to normal, but the rash did not improve 20 days before admission. When the blisters broke, the skin ulcerated and then scabbed with overlying brown–black rupioid crusts within 20 days. When he was admitted to hospital, there were multiple skin crusted ulcerations on the trunk (Fig.1a) and extremities (Fig.1b). There was a small ulcer with yellow discharge in the perineum, swelling of bilateral Subaxillary lymph nodes. He had a history of men who have sex with men (MSM) for 5 years.

The examinations showed white blood cell (WBC) $11.98 \times 10^9/L$, neutrophils $9.82 \times 10^9/L$, hemoglobin (Hb) 130g/L, C-reactive protein (CRP) 152mg/dL, serum immunoglobulins and anti-neutrophil cytoplasmic antibodies (ANCA) were normal, cultures of fungi, bacteria were negative. He was confirmed human immunodeficiency virus (HIV) infection and his CD4⁺T cell counts were 117/ μ L, HIV RNA 4.22×10^5 copies/mL. The biopsy pathology of right forearm lesion (Fig.1c) showed an ulcer, dense inflammatory cells infiltrated in the dermis, including neutrophil, lymphocytes and histocytes, there was deep perivascular infiltration of lymphocytes and plasma cells. AIDS was confirmed. Malignant secondary syphilis was diagnosed according to the biopsy pathology, positive serum syphilis enzyme immunoassay (EIA) screening and high serum rapid plasma regain (RPR) test titer (1:64). After application of benzathine penicillin for 3 weeks, the rashes were in complete remission (Fig.1d). Then the patient began with highly active antiretroviral therapy (HAART) therapy (zidovudine, lamivudine, nevirapine). But zidovudine was changed to tenofovir dipivoxil for severe anemia (Hb 54g/L).

In the follow-up, the RPR titer decreased (1:4) 8 months later, HIV-RNA was negative and CD4⁺T cells were significantly increased (522/ μ L). But 13 months later, the patient appeared with fever and rashes again. The rashes were also multiple skin crusted ulceration, accurately the same with rashes before but more intensive. The RPR rose to 1:64, and then 1:128 in 2 weeks, WBC was $8.59 \times 10^9/L$, CRP was 99.5mg/dL, CD4⁺T cells were 657/ μ L. It was likely to be re-infection of syphilis after frequent sexual activity. Since penicillin skin test was positive, doxycycline was applied for 4 weeks, and RPR decreased to 1:4, rashes disappeared again.

Discussion

Malignant syphilis is an uncommon form of destructive secondary syphilis. A multicentric retrospective study found that 1.33% (151/11368) of HIV-infected individuals in Germany had syphilis, of which 7.3% (11/151) were malignant syphilis [2]. HIV-infected patients were 60 times more likely to present with malignant syphilis compared with general population [3].

The clinical manifestations of syphilis might be altered with impairment of both humoral and cell-mediated immunity by HIV [4], which may limit the host's defenses against *Treponema pallidum*. The progressive, destructive course of malignant syphilis may be due to an immunocompromised condition of the host, a virulent strain, or even an inappropriate immune response [5, 6].

Malignant syphilis is characterized by occlusion of the blood vessels with resultant fibrinoid necrosis at the dermal-subcutaneous junction [7]. The skin lesions of malignant syphilis are just like this patient, start as papules and evolve into pustules, then the lesion centre undergoes necrosis, resulting in ulcers and scabbed with overlying rupioid crusts.

In this patient, the diagnosis of malignant syphilis was confirmed by the positive RPR/EIA titer, characteristic clinical nodular lesions, a plasma cell-rich inflammatory infiltrate on pathology, and good response to benzathine penicillin. However, a year later, the patient developed fever again, the appearance

of the rash was the same as before, and the RPR increased again. Is it a relapse or reinfection? Since the RPR of the patients had been at a low level during the nearly 1-year follow-up, and the RPR rose to 1:64, and then 1:128 in 2 weeks, it was considered that the patients had a high possibility of "syphilis reinfection", for the patient admitted to having frequent sex in recent months. Fortunately, the patient responded well to doxycycline treatment. Despite its name, malignant syphilis is usually treated well after accurate diagnosis and regular treatment[8].

Conclusion

Malignant syphilis is a rare form of secondary syphilis, but tends to occur in AIDS patients because of poor immunity. Although the clinical manifestations of malignant syphilis are severe, the response to the therapy of both penicillin and doxycycline are excellent.

Declarations

Ethics approval and consent of participate

Informed consent was obtained in this case and protocols were approved by the Human ethics committee of The First Affiliated Hospital of China Medical University.

Consent for publication

The patient provided written, informed consent for publication of the details of this case.

Availability of data and material

All data generated or analyzed in this case report are included in this published article.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

All authors analyzed and interpreted the patient data. WY¹ and WY² treated the patient, made the clinical diagnosis, wrote and revised the manuscript. All authors have read and approved the final manuscript. (WY¹ is Wang Yu and WY² is WenYing)

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Figures

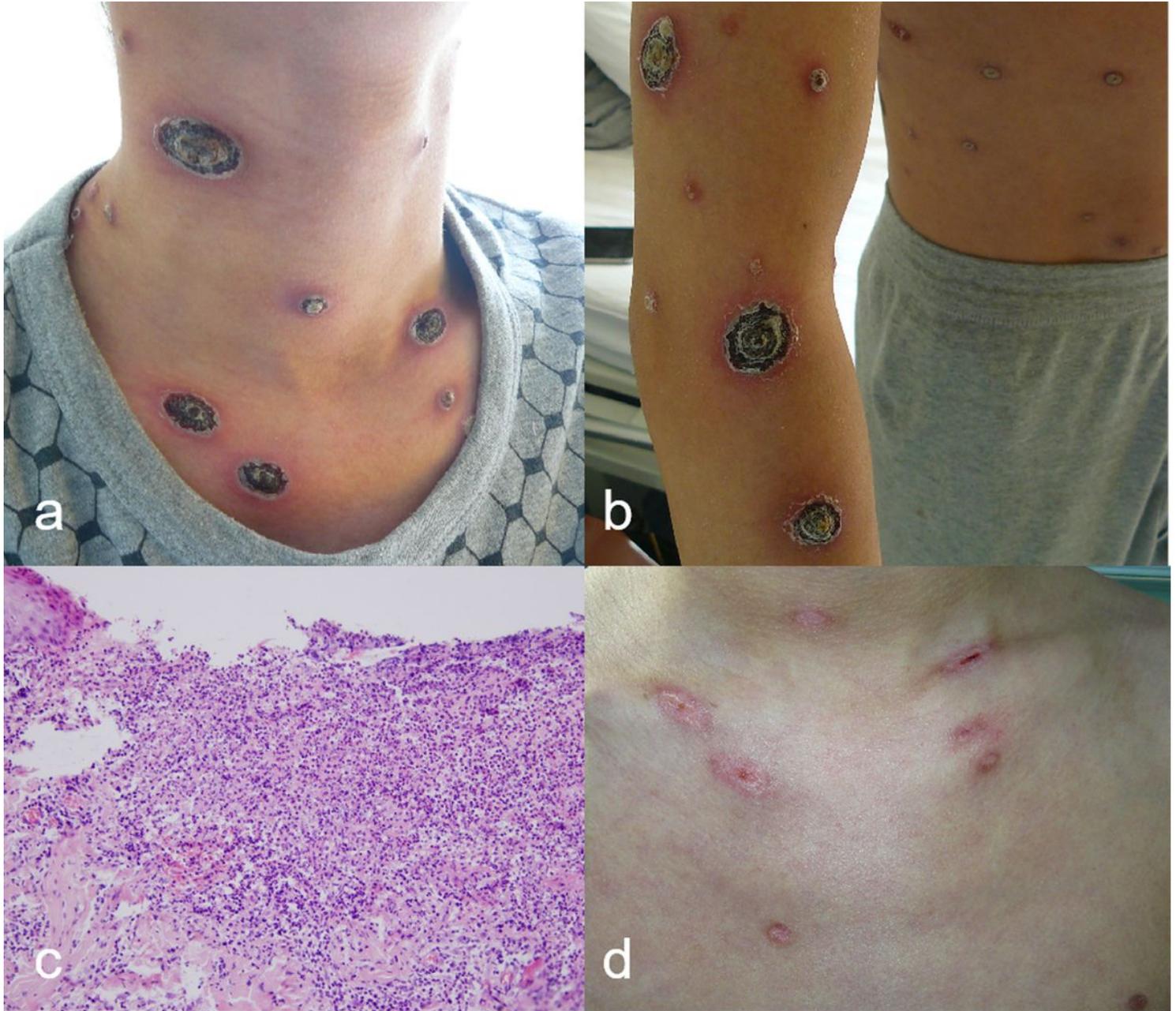


Figure 1

Multiple skin ulcerations scabbed with overlying brown–black rupioid crusts on the trunk (a) and extremity (b). The biopsy pathology of right forearm lesion (hematoxylin and eosin; original magnification $\times 200$) (c). There are Scars on the trunk after treatment with benzathine penicillin for 3 weeks (d).