Case report

Necrotizing retinitis due to syphilis in a patient with AIDS

Takashi Shinha, MD,a,⁎ Bree A. Weaver, MDb

aVanderbilt University Medical Center, United States
bIndiana University Department of Medicine, United States

Abstract

The ocular manifestations of syphilis are varied. Ocular syphilis can occur during any stage of infection and involve virtually any part of the eye. In immunocompetent individuals, the most common etiologies include syphilitic uveitis. Although the clinical presentation of ocular syphilis in HIV-infected patients is also widespread, posterior segment involvement has been more commonly described particularly in patients with AIDS. The diagnosis of syphilitic retinitis is challenging since its clinical presentation mimics retinitis caused by other viral etiologies. In addition, HIV-infected individuals with syphilis are more likely to develop aberrant serologic responses. Recognition of syphilitic retinitis and prompt initiation of penicillin therapy is of critical importance since syphilitic retinitis generally responds well to treatment and loss of vision is reversible. In this report, we describe a 39-year-old female with advanced stages of AIDS who developed necrotizing retinitis due to syphilis. Prompt initiation of intravenous penicillin led to excellent visual outcome for this patient despite significantly decreased visual acuity on presentation.

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Introduction

HIV-infected individuals are at increased risk of developing a wide variety of ophthalmologic opportunistic infections with advanced degrees of immunosuppression. Retinitis or acute retinal necrosis (ARN) is commonly caused by various viruses, such as CMV, HSV and VZV, in patients with AIDS [1–4]. Other non-viral etiologies of retinitis or ARN also include toxoplasmosis, lymphoma and syphilis [5–7]. Although syphilis can involve any anatomical structures of the eye, anterior uveitis is the most common presentation in immunocompetent hosts [8]. Importantly, however, posterior segment involvement has been more commonly described in patients with AIDS [8]. Necrotizing retinitis due to syphilis poses a diagnostic challenge for a number of reasons. Its clinical presentation closely mimics retinitis caused by viral etiologies. Additionally, HIV-infected individuals with syphilis may demonstrate aberrant serological responses. For example, seronegative secondary syphilis has been reported in HIV-infected patients [9–12]. Hicks et al. reported a case of secondary syphilis in an HIV-infected man with Kaposi sarcoma. Serology testing of syphilis was repeatedly nonreactive which necessitated biopsy of a skin lesion for diagnosis [9]. Non-treponemal tests may also be negative in HIV-infected patients with ocular syphilis [13]. Syphilitic retinitis generally responds well to intravenous penicillin leading to favorable visual outcome, thus a high clinical suspicion and recognition of syphilitic retinitis in HIV-infected individuals followed by prompt initiation of treatment are crucial for clinicians even in the absence of objective evidence of syphilis. Herein we report a case of necrotizing syphilitic retinitis in a patient with AIDS.

Case presentation

A 39-year-old African American female with a history of AIDS was in her usual state of health until 5 days prior to presentation when she developed sudden onset of loss of vision. She was diagnosed with HIV infection 2 months prior to presentation and she was not yet on highly active antiretroviral therapy (HAART). Her markedly decreased vision started in the left eye. Two days later, she also developed decreased vision with blurriness in the right eye. She denied eye pain, conjunctival redness, and flashes of light or floaters in her visual fields. Her past medical history was also significant for gonorrhea and syphilis diagnosed 13 years before. The patient recalled uncertainly that she was treated with penicillin for syphilis. She had not been evaluated for neurosyphilis. On physical examination, the patient appeared cachectic, but not in acute distress. The temperature was 98.2 °F, blood pressure 111/65 mm Hg, pulse 95 beats per minute, respirations...
The ocular manifestations of syphilis are diverse since it can involve any anatomical structures of the eye. In a study of 22 cases of ocular syphilis in HIV-negative individuals, non-granulomatous anterior uveitis was the most common presentation (18/22) [8]. Although anterior uveitis is common in immunocompetent individuals, posterior segment involvement has been described more commonly in HIV-infected individuals with advanced stages of immunosuppression. In a retrospective study of ocular syphilis in HIV-infected patients, panuveitis accounted for 38% whereas isolated anterior uveitis accounted for 31% [21]. Tran et al. investigated ocular manifestations due to syphilis for 20 eyes in 12 HIV-infected individuals; necrotizing retinitis was noted in 7 eyes (35%), posterior chorioretinitis in 6 eyes (30%) and optic nerve involvement in 5 eyes (25%) [22]. In addition, syphilitic retinitis is more commonly seen in HIV-infected individuals with more advanced stages of immunosuppression. In a study of 101 HIV-infected patients, posterior uveitis was significantly more common in those with CD4 count <200 cells/mm³ (p = 0.002) [13].

Ocular syphilis may be complicated by central nervous system involvement, thus investigation for neurosyphilis should be considered especially for patients with AIDS. In a study of neurosyphilis during the AIDS epidemic in San Francisco, 11 patients had concomitant uveitis among 38 patients with early neurosyphilis [23]. Another study reported a high proportion of neurosyphilis in HIV-infected patients with syphilitic uveitis; 7 of 9 patients (77.8%) demonstrated CSF abnormalities [22]. Even with no evidence of neurosyphilis, syphilitic retinitis should be treated with the same regimen for neurosyphilis; a 10–14 day course of intravenous penicillin is recommended. Syphilitic retinitis generally responds well to penicillin therapy with good visual outcome [24,25].

Conclusions

Although ophthalmologic manifestations of syphilis are diverse, posterior segment involvement is common in HIV-infected individuals with more advanced stages of immunosuppression. Necrotizing retinitis due to syphilis is particularly diagnostic challenging in the presence of AIDS. Its clinical presentation mimics retinitis cause by viral opportunistic infections. Serological responses may be atypical in HIV-infected individuals with syphilis. Lack of appropriate clinical responses to ganciclovir for presumed viral retinitis, negative PCR analysis for viral retinitis, remote history of syphilis led us to initiate penicillin therapy empirically with excellent visual outcome. Recognition of syphilitic retinitis in patients with AIDS is paramount for clinicians and a threshold to initiate penicillin should be lower even in the absence of objective evidence of syphilis.

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