

> THE PATIENT

67-year-old man

> SIGNS & SYMPTOMS

- Subacute loss of vision in one eye
- Rash on hands and feet
- Plaques with scaling on genitals

> THE CASE

A 67-year-old man presented to the hospital with subacute loss of vision in his left eye. The visual changes began 2 weeks earlier, with a central area of visual loss that had since progressed to near complete vision loss in the left eye.

Physical examination revealed patchy alopecia, a scaling and hyperkeratotic rash of his hands and feet (FIGURE 1), and blanching, erythematous plaques with associated scaling on the scrotum and glans penis. Ophthalmologic examination revealed 1/200 vision in his left eye with a large plaque occupying a substantial portion of the superior quadrant, smaller perifoveal plaques in both of his eyes, and a small infiltrate above the left optic nerve head (FIGURE 2). The patient also described fatigue, loss of taste, and an unintentional weight loss of 7 to 10 kg over the previous 6 months. He had seen his primary care provider 3 months prior for a burning sensation and scaling rash on his feet and hands, and was prescribed a topical steroid.

The patient's social history was relevant for intermittent condom use with 6 lifetime female partners, but it was negative for new sexual partners, sexual contact with men, intravenous drug use, tattoos, blood transfusions, or travel outside the state. His medical history was significant for hypertension.

Routine laboratory tests were remarkable for an elevated erythrocyte sedimentation rate of 53 mm/hr (normal: 0-15 mm/hr) and a C-reactive protein of 5.3 mg/dL (normal: <0.5 mg/dL). Lumbar puncture revealed a white blood cell count of 133 cells/mcL (normal: 0-5 cells/mcL) with 87% lymphocytes and protein elevated to 63 mg/dL (normal: 15-40 mg/dL).

Other tests were ordered and included a serum fourth-generation ELISA to screen for human immunodeficiency virus (HIV)-1 and HIV-2, a cerebrospinal fluid venereal disease research laboratory (CSF-VDRL) test, a syphilis IgG screen and reflexive rapid plasma reagin (RPR) quantitation, and tests for cytomegalovirus antibodies, antinuclear antibody, rheumatoid factor, and *Toxoplasma* antibodies. Punch biopsy of the patient's palmar skin changes was also performed; Steiner stain and spirochete immunohistochemical stain were applied to the sample. Magnetic resonance imaging of the brain and orbit was unremarkable.

THE DIAGNOSIS

The patient's HIV screening test came back positive and

FIGURE 1

Hyperkeratotic rash on feet



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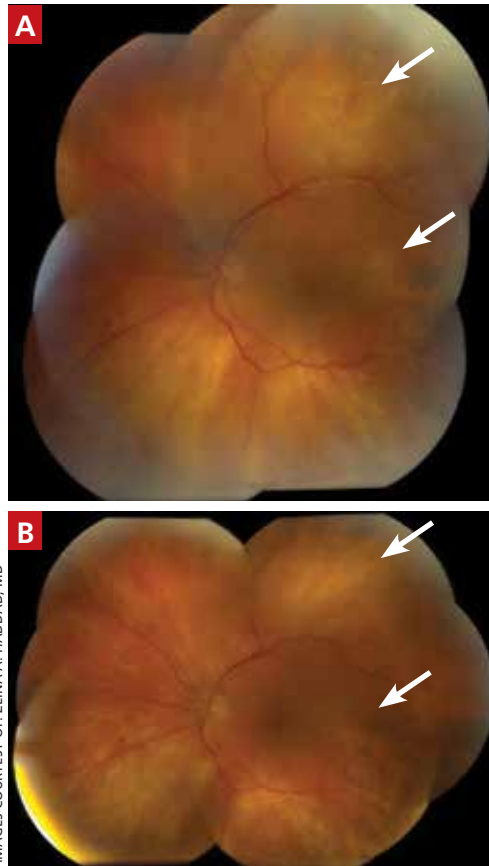
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The authors reported no
potential conflict of interest
relevant to this article.

FIGURE 2

Treatment of retinal infiltrate



An examination of the patient's left eye on treatment Day 0 revealed an area of retinal infiltrate (A). The patient had near resolution on Day 3 of treatment with intravenous penicillin G (B).

was followed by confirmation of HIV-1 antibody, with an HIV viral load of 61,000 copies/mL and a CD4 count of 383 cells/mm³. The CSF-VDRL test and serum syphilis IgG were also positive, and the RPR titer was 1:16. The Steiner and spirochete immunohistochemical stains confirmed the presence of treponemes in the epidermis (FIGURE 3). Taken together, these findings confirmed a unifying diagnosis of ocular syphilis and syphilitic keratoderma with concomitant HIV.

DISCUSSION

After reaching an all-time low in the mid-1990s, several recent reports indicate that

the incidence of syphilis is again increasing in North America.¹⁻³ In the United States, annual incidence rates have increased from 2.1/100,000 in 2000 to 5.3/100,000 in 2013.³ The increase has been most notable in younger men, men who have sex with men (MSM), and those with HIV infection.¹

A 2015 Centers for Disease Control and Prevention advisory highlights an unusual collection of cases of ocular syphilis, predominantly in HIV-infected MSM, from California and Washington.⁴ Disease sequelae in this outbreak have resulted in blindness.

HIV coinfection has been reported in 27.5% of males and 12.4% of females with new diagnoses of syphilis.¹ Patients with HIV are more likely to have asymptomatic primary syphilitic infection, and may have an earlier onset of secondary syphilis and neurosyphilis.^{1,5,6} Cutaneous findings such as malignant syphilis (characterized by ulcerating, pustular, or rupioid lesions), as well as other atypical rashes mimicking eczema, leprosy, mycosis fungoides, or keratoderma blenorrhagicum, may all be more common in those with HIV coinfection.⁶ Ageusia or dysgeusia is rare in syphilis, and to our knowledge has only been described with concomitant oral lesions.⁷

MANAGEMENT

Our patient was treated with a continuous daily infusion of 20 million units of penicillin G for 14 days, one drop of 1% ocular prednisolone in each eye 4 times daily for 4 weeks, one drop of 2% cyclopentolate in each eye 2 times daily for 4 weeks, and 60 mg/d of oral prednisone tapered over 3 months. For the HIV infection, he was started on antiretroviral therapy soon after diagnosis.

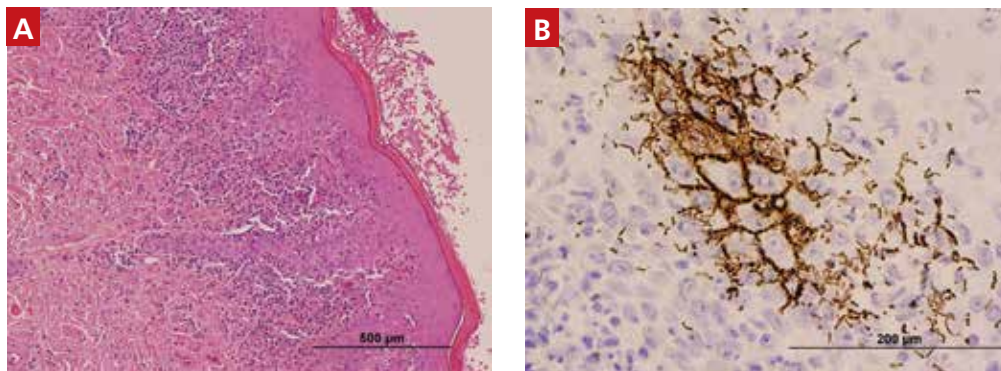
Within 48 hours of initiating penicillin, he reported a marked improvement in vision and regained the ability to taste. After one week of therapy, near resolution of the palmoplantar rash was noted and the patient was discharged on hospital Day 8. At a 3-month follow-up visit, he was asymptomatic, with return of normal sensation. Repeat ophthalmologic examination showed no evidence of disease.

➤ A recent increase of syphilis in the United States has been most notable in younger men, men who have sex with men, and those with HIV infection.

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FIGURE 3

Skin biopsy results



Light microscopy with hematoxylin and eosin staining demonstrated lymphocytic infiltration of the dermis (A); silver staining revealed an abundance of spirochetes (B).

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THE TAKEAWAY

This case complements other sporadic reports of symptoms of ocular and cutaneous syphilis serving as the initial presentation of HIV infection.^{5,8,9} Risk-factor based screening for HIV often leads to missed diagnoses, and early recognition of this constellation of symptoms may aid in prompt diagnosis and treatment of syphilis and HIV.¹⁰

JFP

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