Ocular Syphilis in an HIV-Positive Patient With Penicillin Anaphylaxis Requiring ICU-Level Desensitization

Abstract:

We present a rare case of ocular syphilis in a 67-year-old HIV-positive male with history of penicillin anaphylaxis, requiring ICU-level desensitization. The patient presented with bilateral uveitis and a diffuse maculopapular rash. Diagnosis was supported by treponemal serology. He underwent successful desensitization and completed a full course of IV penicillin G. This case highlights key management considerations for ocular syphilis in patients with severe drug allergies and HIV co-infection.

Introduction:

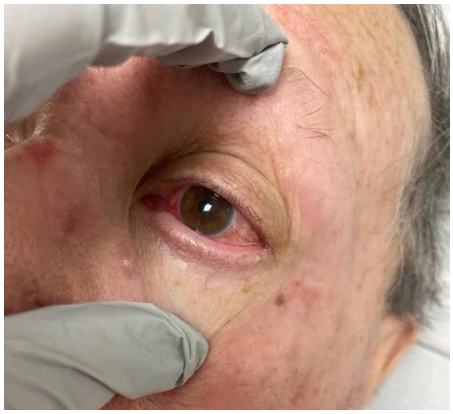
Ocular syphilis, a form of neurosyphilis, is increasing in incidence, especially among HIV-positive individuals (Sun et al., 2022). It can present at any stage of syphilis, often with uveitis. Prompt diagnosis and treatment are critical to preserve vision. Penicillin is the gold standard treatment, however, desensitization is required in cases of true allergy (CDC, 2021).

Case Presentation:

A 67-year-old male with HIV (CD4 381 cells/mm³) on Biktarvy presented on 10/25/24 with one week of left eye pain, photophobia, and blurry vision. The patient also had a three-month history of a pruritic maculopapular rash involving his torso, face, and palms. Syphilis serologies (10/22/24) revealed a reactive treponemal antibody and RPR titer of 1:128. He denied prior syphilis treatment.

Initial ophthalmologic exam showed 20/100 OS and 20/30 OD. IOP was 23 OS and 13 OD. OS had 3–4+ anterior chamber cell, 2+ flare, diffuse mutton-fat keratic precipitates, and posterior synechiae. OD showed 1+ cell and flare. B-scan of the left eye was negative for posterior involvement.

Figure 1. External photograph of the patient's left eye demonstrating temporal conjunctival injection consistent with anterior uveitis secondary to ocular syphilis (see image below).



Over the next two days, symptoms improved slightly with topical therapy. On 10/28/24, due to penicillin anaphylaxis history, the patient was transferred to the ICU for desensitization. He tolerated IV penicillin G and completed a 14-day course. He was discharged on 10/30/24 on topical prednisolone, atropine, Cosopt OS, and artificial tears.

At follow-up on 11/8/24, visual acuity improved to 20/40 OS, and IOP normalized. Anterior chamber inflammation had decreased significantly. The patient was compliant with therapy and reported significant improvement.

Discussion:

Ocular syphilis requires initial recognition and treatment due to its potential to cause permanent vision loss (Desai et al., 2020). While lumbar puncture is often recommended, it may be deferred in patients with no neurologic findings or contraindications (CDC, 2021). Given the absence of neurological symptoms, the team opted to defer LP; a decision made after multidisciplinary discussion. Desensitization remains the gold standard for patients with penicillin allergy, as alternative treatments may be less effective (Reid et al., 2024).

This case emphasizes the importance of multidisciplinary coordination between ophthalmology, infectious disease, allergy/immunology, and critical care. Early diagnosis, systemic evaluation, and prompt initiation of penicillin therapy are crucial for visual recovery (Benson et al., 2018).

Conclusion:

Ocular syphilis should be considered in any patient with unexplained uveitis, particularly in those with HIV. Even in the context of penicillin allergy, desensitization allows definitive treatment. Our patient showed full clinical recovery following ICU-level desensitization and penicillin therapy.

References

1. Sun C, Jiang D, Li H, et al. Demographic, Clinical, and Laboratory Characteristics of Ocular Syphilis: A 6-Year Case Series from East China. Front Immunol. 2022;13:843723. doi:10.3389/fimmu.2022.843723

2. Centers for Disease Control and Prevention (CDC). Sexually Transmitted Infections Treatment Guidelines, 2021. MMWR Recomm Rep. 2021;70(4):1-187. https://www.cdc.gov/std/treatment-guidelines/default.htm

3. Desai RP, Patel NJ, Shah H. Ocular Neurosyphilis in an HIV-Positive Patient. Southwest Respir Crit Care Chron. 2020;8(35):36-40.

4. Reid GA, Steiner K, Zhao F, et al. Ocular vs. Neurosyphilis: Are They the Same? Eye (Lond). 2024. doi:10.1038/s41433-024-02870-x

5. Benson CE, Soliman MK, Vance SK. Syphilis-Related Eye Disease Presenting as Bilateral Papilledema. Case Rep Ophthalmol Med. 2018;2018:2673083. doi:10.1155/2018/2673083