MCQ Answer: Tertiary neurosyphilis

MCQ 2 Answer: Lumbar puncture

MCQ Discussion:

The differential diagnosis is broad in a case of a patient with HIV and vision loss. It is important to initially consider a broad differential of common causes of vision loss seen in the general population, including retinal artery occlusion, retinal vein thrombosis, stroke, retinal detachment, as well as opportunistic and other less common infections, including CMV, HSV, VZV, syphilis, histoplasma, tuberculosis, cryptococcus. Many of these diagnoses can be deemed less likely based on history and examination alone.

CMV retinitis can present with ocular manifestations similar to this patient. Unlike this case, patients generally have monocular vision loss and have CD4 counts below 50 cells/μL. The rash associated with disseminated CMV is generally a petechial exanthem. Immune reconstitution inflammatory syndrome (IRIS) is a consideration in a patient who has recently restarted antiretroviral therapy. However, IRIS usually presents 4-14 weeks after starting ART and patients generally have a pretreatment CD4 count of less than 100 cells/μL. Disseminated tuberculosis tends to present over a more insidious or subacute time course. The rash associated with cutaneous tuberculosis is classically a small papule that evolves into an ulcer with ragged, erythematous-violaceous borders. Disseminated varicella zoster may present with ocular manifestations; though, in the majority of cases, there is keratitis and an associated V1 dermatomal rash. The rash is classically monomorphous 2- 3 mm vesicles with an erythematous base that eventually lead to hemorrhagic crusting.

This patient's presentation was most concerning for neurosyphilis. A lumbar puncture was therefore performed and notable for an RPR titer of 1:512. Serum RPR titer was 1:64. In cases of syphilis, the screening test of choice is non-treponemal serum tests, such as VDRL and RPR. Confirmatory testing includes treponemal tests such as FTA and TP-EIA to detect the antibodies to T. pallidum. Ocular syphilis, a form of neurosyphilis, is prevalent in HIV positive patients (1). A diagnosis of neurosyphilis should be considered in individuals with HIV and a CD4 cell count < 350 cells/mm3 and an RPR > 1:32, though it can be seen in individuals with higher CD4 counts (2). Recent CDC guidelines recommend that patients co-infected with HIV should undergo lumbar puncture if there is any sign of neurologic involvement regardless of the stage of syphilis (3).

Having received the preferred treatment for neurosyphilis, aqueous penicillin G 24 million units daily divided as 4 million units every 4 hours for 10 days, the patient's rash and panuveitis resolved with 20/30 vision in the right eye and 20/25 in the left eye. He has been followed closely by the infectious diseases clinic and noted to be compliant with ART.

Figure 1: Macular, non-pruritic rash involving the trunk.

Figure 2: Hyperkeratotic macular rash involving the palms.

Figure 3: Hyperkeratotic macular rash involving the soles.