

Vision impairment and papilledema as the initial manifestation of neurosyphilis in a young immunocompetent patient

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Introduction

Ocular syphilis as the initial presentation of syphilis has been infrequently reported. The condition is typically seen in HIV-positive males and most commonly manifests as panuveitis, though involvement of conjunctiva, cornea, sclera, retina, and optic nerve have been described [1].

Here, we describe a young immunocompetent woman who developed optic neuritis as the initial manifestation of subsequently diagnosed neurosyphilis.

Case Description

- A 19-year-old Caucasian female presented with four days of severe headache, declining vision in her right eye, and transient vision loss on lateral and superior gaze. She had been having pain behind both eyes over the past month.
- Fundoscopic exam revealed bilateral optic disc edema, right more than left. There was no evident extraocular movement abnormality, afferent pupillary defect, or other cranial nerve deficit on exam.
- MRI of the brain and orbits showed subtle right optic nerve head contrast enhancement.
- On lumbar puncture, opening pressure was 13 cmH₂O. CSF showed normal glucose and protein levels but significant lymphocytic pleocytosis (WBC count 100/mm³). Extensive CSF analysis including viral PCRs and VDRL were unrevealing.
- Serum analysis was significant for a positive MHA-TP with RPR titer of 1:8; HIV PCR was negative. She reported no systemic symptoms or prior treatment of syphilis.
- After penicillin desensitization, she was treated with a 14-day course of IV penicillin G. Her vision gradually stabilized but did not significantly improve.
- A repeat lumbar puncture was performed one month later and showed normalization of CSF (WBC count 5/mm³).
- At 4-month follow up, repeat examination showed resolution of optic disc edema but with residual gliosis and retinopathy. Repeat RPR titer was 1:2. Serum angiotensin converting enzyme levels were normal, and Bartonella titers were negative.

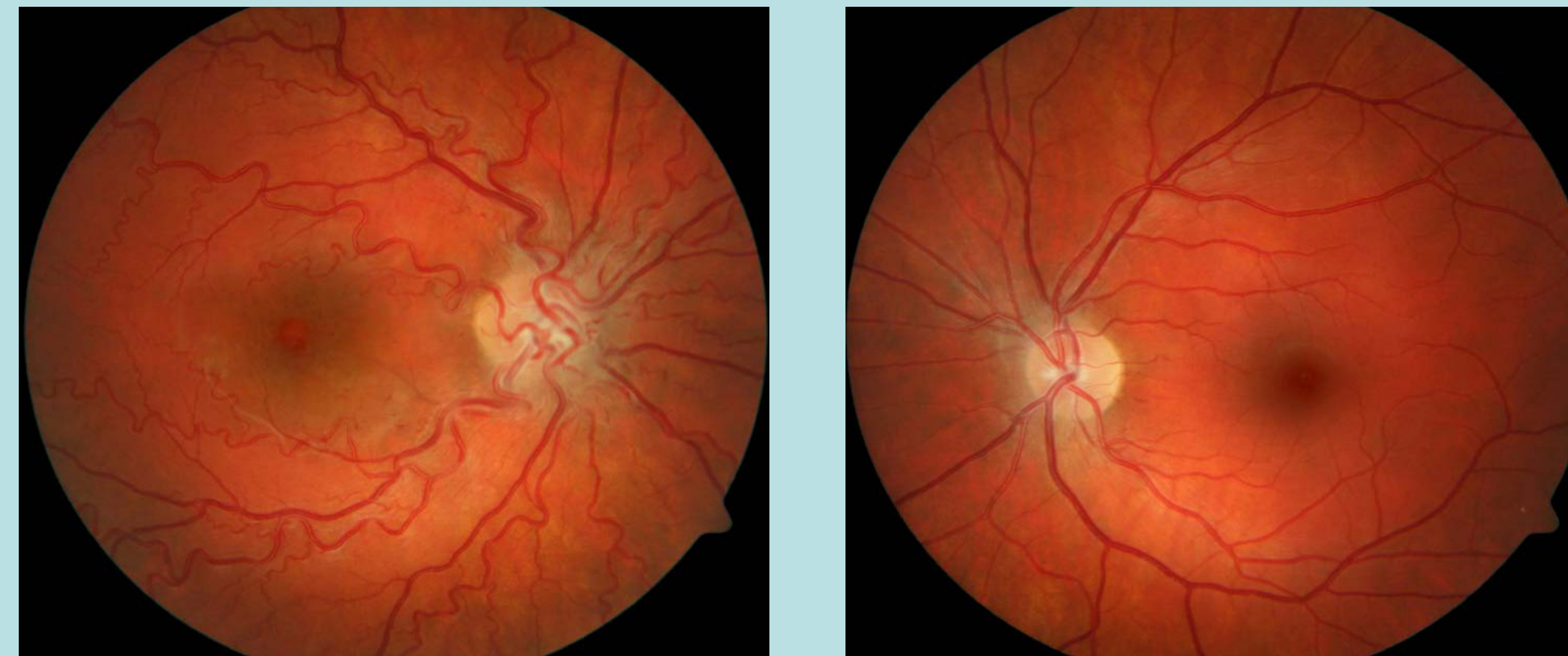


Figure 1a: Fundoscopic photos taken before symptom onset.

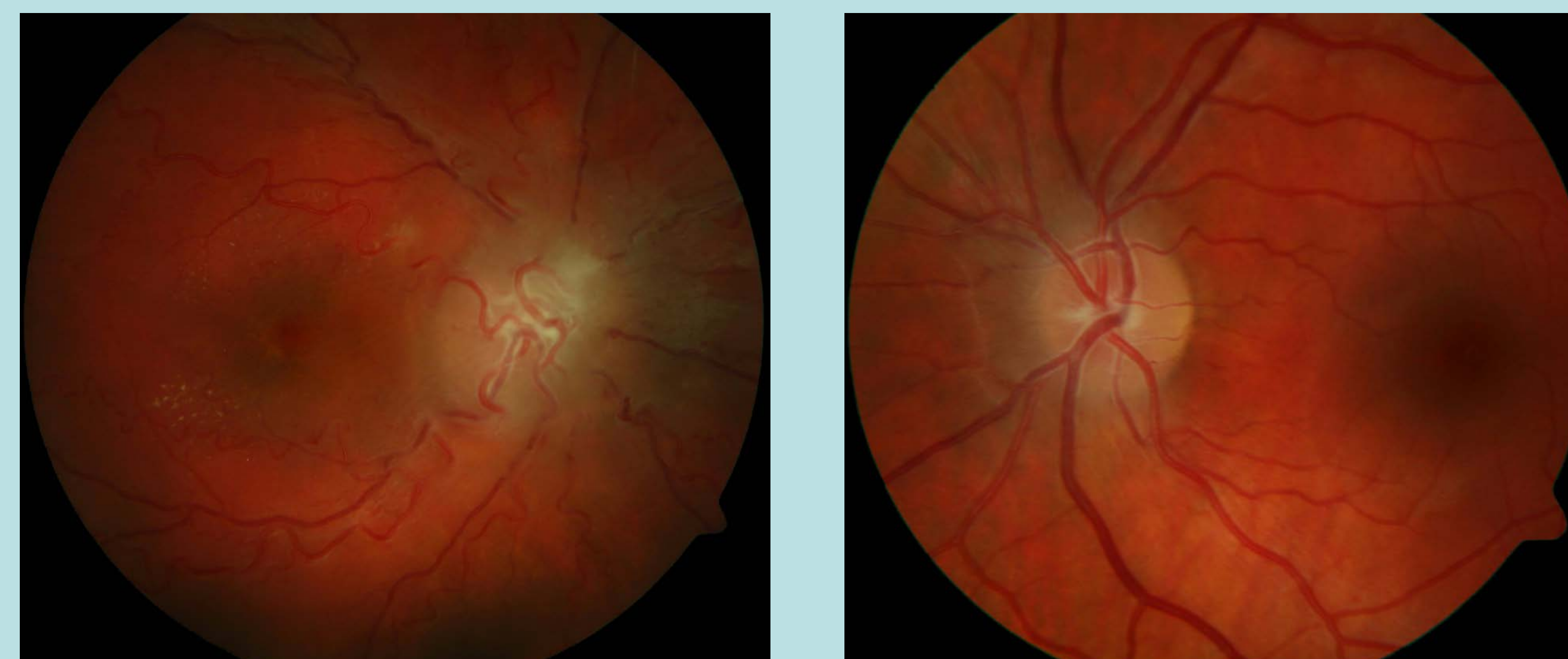


Figure 1b: Fundoscopic photographs taken after diagnosis and treatment.

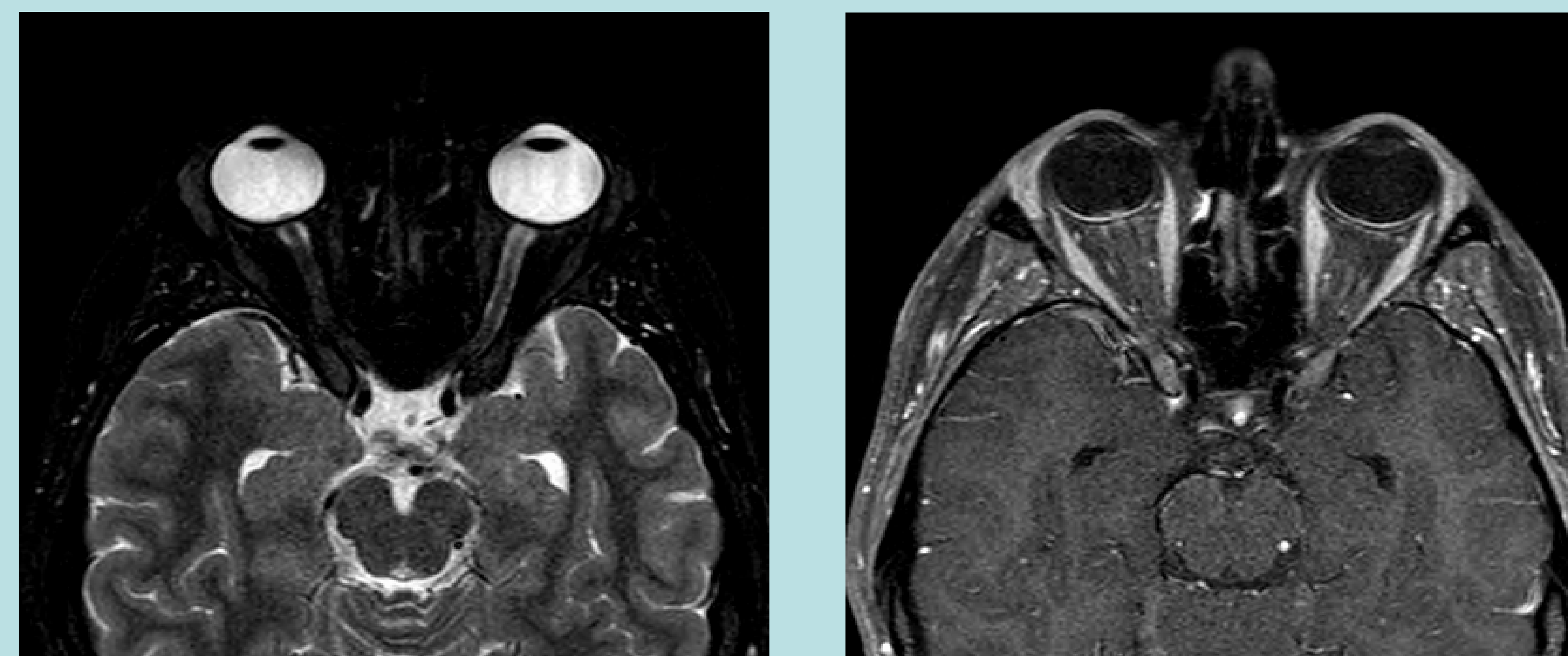


Figure 2: (Left) Axial T2-weighted MRI demonstrating reversed optic nerve cupping in the right eye. (Right) Axial post-contrast T1-weighted MRI demonstrating subtle enhancement at the right optic nerve head.

Discussion

- Data from the CDC suggest a reemergence of syphilis in the US since 2001, primarily among homosexual men and in association with HIV. Cases among immunocompetent individuals are less commonly reported.
- Ocular syphilis is uncommon and described mostly in case reports [1,3].
- In a series of 35 cases of treated ocular syphilis, 16% had evidence of optic nerve involvement, with a greater prevalence in the HIV-positive subgroup, reinforcing the importance of HIV testing. Meanwhile, HIV-negative patients were more likely to be female, to present with poorer visual acuity, and to have significant visual loss and complications such as chorioretinitis in follow-up [1].
- Recommended antibiotic therapy is the same as for neurosyphilis [2]; early treatment has been shown to improve outcome. The benefit of adjunctive corticosteroids is unclear [3].

Conclusion

In the present case, a young immunocompetent woman was diagnosed with neurosyphilis initially manifesting as optic neuritis. Her improvement with penicillin dosed as indicated for neurosyphilis reinforces the importance of considering this differential diagnosis even in immunocompetent patients presenting with vision impairment and optic disc edema.

References

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