A Complicated Presentation of Ocular Syphilis

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INTRODUCTION

Syphilis, known as "the great imitator or masquerader" due to its variable manifestations that can mimic many other inflammatory (infectious and autoimmune) diseases. (1) It is most commonly transmitted via sexual contact and is caused by the spirochaete, Treponema pallidum. (1) Syphilis causes a severe systemic inflammatory infection that can lead to death if left untreated. There are stages of the disease when left untreated, primary, secondary, and tertiary. Syphilis has many manifestations throughout the body, including the eye. It can present as a chancre or rash on the eye lid, interstitial keratitis in the cornea, uveitis, vitritis, chorioretinitis, papilledema/neuritis, or even ocular palsies. (1) Ocular syphilis is known to be present in 2-10% of patients with systemic syphilis and in a study by Klien, et al., they found that "ocular syphilis was found in one-quarter of the patients diagnosed with systemic syphilis and preceded the diagnosis of systemic disease in one-half of them" (1). This case presents a unique and challenging presentation of ocular syphilis preceding a systemic diagnosis of syphilis.

CASE

A 71-year-old African American type 2 diabetic male followed for glaucoma and bilateral posterior vitreous detachments (PVDs) complained of pain in the left eye (OS) and on the left side of the head that started a couple days prior (11/3/2021). He noticed an increase in flashes and floaters OS and a "black blob" in the center of his vision. Vision in the right eye (OD) remained stable at 20/20, but OS decreased to 20/600 from 20/20. A dilated fundus exam showed glaucomatous cupping, a stable PVD, with all other retinal findings unremarkable OD. OS showed vitreal pigment cells vs hemorrhage with restricted retinal views due to a vitreous hemorrhage (Figure 1). A Bscan confirmed no retinal detachment, but a large area of a viterous body-vitriris vs hemorrhage (Figure 2). The patient was referred immediately for a retinal consult and further medical work up.

A retinal specialist saw the patient the next day noting stable and unremarkable findings OD, but optic nerve head edema (Figure 2 and 3), sclerotic vessels and dot hemorrhages were noted OS (Figure 1A). The patient was diagnosed with ischemic optic neuropathy and vitreous hemorrhage OS (Figure 1A) and referred immediately for a stroke work up. A stroke work up came back negative, but an MRI confirmed optic neuritis OS and infectious lab work was ordered (TP-AB, RPR, herpes simplex 1 and 2) .

A week later the patient developed anterior and posterior uveitis OS with chorioretinitis (Figure 4) including Kyrieleis plaques (Figure 1A and 1B). The patient's lab work confirmed herpes simplex virus 1 (HSV1) and HSV2 and treated appropriately systemically and topically. The patient's vision decreased OS to count fingers two weeks later and he was diagnosed with a branched artery occlusion. Further blood work revealed the diagnosis of syphilis, and the patient was referred to the emergency room for immediate admission for the treatment of neurosyphilis with intravenous penicillin G.

The patient's HSV resolved with oral valacyclovir and his neurosyphilis improved after a 14-day treatment of intravenous penicillin G. The patient continues to show no further systemic manifestations and visual acuity improved to 20/30 OS.

FIGURE 1A
Photo from first exam (11/3/2021) blurred due to vitreous hemorrhage/vitritis, with an edematous optic nerve (red arrow) with retinal hemorrhages (purple arrow), Kyrieleis plaques (blue arrow), and macular edema in the left eye.

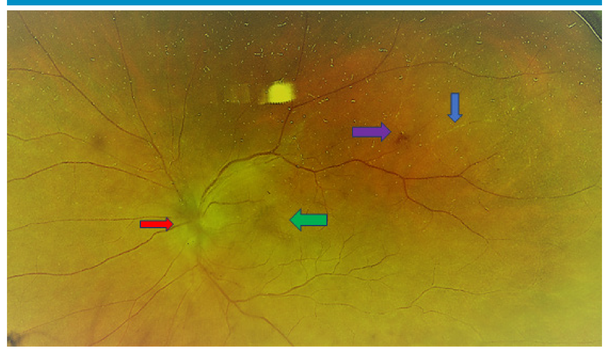


FIGURE 1B
Fundus photo showing 3 months after 1st episode showing retinal traction (green arrow) over the pale optic nerve and macula with retinal hemorrhages (purple arrow), Kyrieleis plaques (blue arrow) and sclerosed vessels superior temporal and inferiorly.

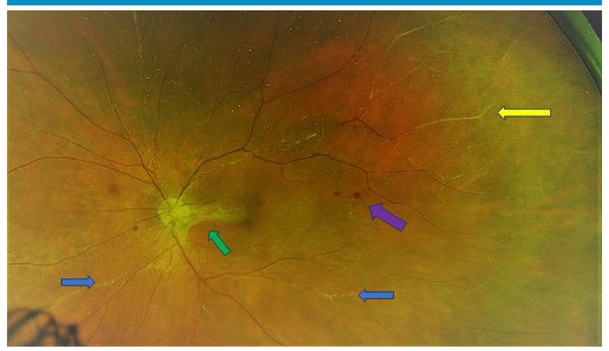


FIGURE 2
Bscan showing the vitreous hemorrhage vs severe vitritis at the first exam (11/3/2021).

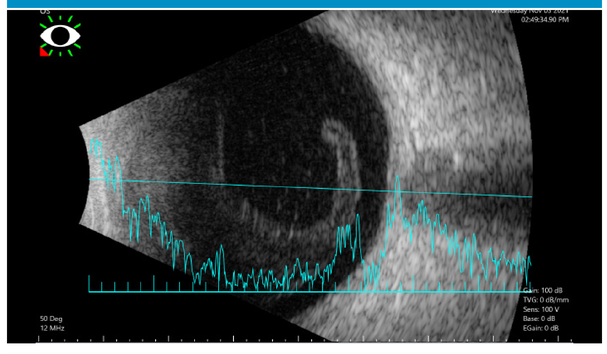


FIGURE 3
2nd day with retinal specialist confirm optic nerve head edema and chorioretinitis on Spectrialis OCT.

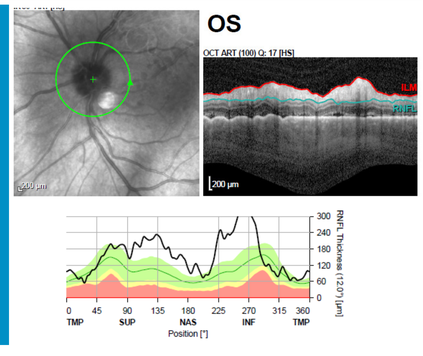
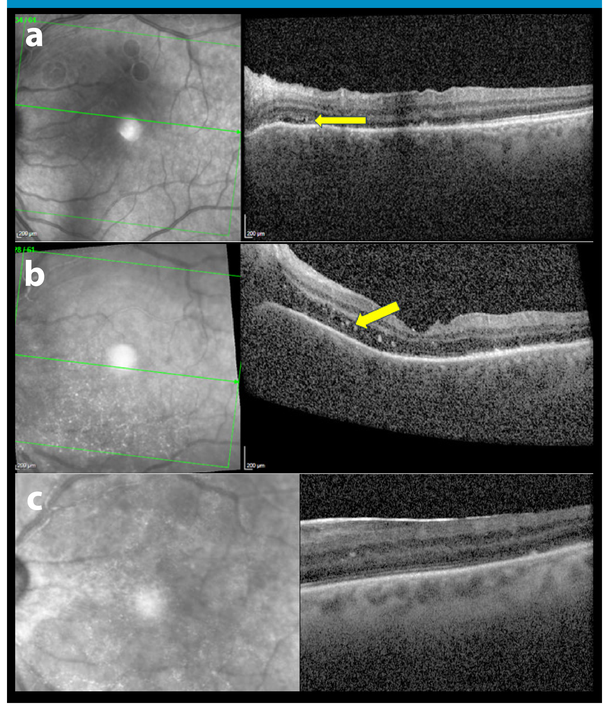


FIGURE 4
Spectralis OCT images of (a,b) retinitis (hyperreflective precipitates), chorioretinitis (yellow arrows) with sub-retinal fluid(b) from second exam through 6-month recovery(c).



CONCLUSION

The complexity of this case demonstrates how syphilis can masquerade many different ocular conditions. The patient in this case, presented first with a vitreous hemorrhage and optic neuropathy that could be easily mistaken because of his diabetes and/or hypertension. Since the eye is an extension of the brain, ocular syphilis affecting the optic nerve, retina and/or causing nerve palsies need to be treated the same as neurosyphilis. In this case, the quick diagnosis and treatment allowed the patient to have a better outcome ocularly as well as systemically. This is a great case to learn the many ocular manifestations of syphilis since during the last decade, the number of syphilis cases has been on the rise in developed western countries. (1)

REFERENCES

Available upon request

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