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# Neurosyphilis rebound in youth: A case report

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Syphilis is a systemic sexually transmitted disease that can be presented with very varied ocular symptoms. We present the case of a 27-year-old patient with ocular inflammation and bilateral papilledema who was finally diagnosed as neurosyphilis. We want to highlight the importance of taking this diagnosis into account in the event of any ocular inflammation of unknown cause.

Key words: HIV, papilledema, syphilis

Known as the great imitator, syphilis can affect all eye structures. Ophthalmological symptoms may be the only manifestation of the disease, so it must be considered in any inflammatory condition of the eye. Its diagnosis requires ruling out HIV coinfection.<sup>[1]</sup>

# **Case Report**

A 27-year-old male patient with a history of congenital toxoplasma macular scar in the right eye (RE) detected in medical consultation in childhood and recurrent oral thrush for 3 years (four or five episodes per year). He came to the emergency room of our service due to a paracentral scotoma in the left eye (LE) of 2 weeks of evolution, as well as pain on mobilization and photopsis for 3 days. The previous week to the consultation he had cough, rhinorrhea, muscle pain, and fever of 38°C. In addition, in the last 2 months, he started empirical treatment with oral corticosteroids due to the intensification of oral thrush with improvement of the symptoms.

On examination, he presented visual acuity of 20/200 in the RE and 20/20 in the LE. The pupils were isochoric and normoreactive, and extrinsic ocular motility was normal. Biomicroscopy revealed mild hyperemia and tyndall 1+ in both eyes. In RE funduscopy, we see a central scar that occupies the

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Received: 19-May-2021 Accepted: 26-Aug-2021 Revision: 12-Jun-2021 Published: 07-Jan-2022 entire macular area compatible with congenital toxoplasma, as well as papilledema. In the LE, the papilla presented a similar appearance to the contralateral eye, with blurred hyperemic disc margins, as well as a congenital toxoplasma scar in the course of the superior temporal vessels [Fig. 1]. No other inflammatory signs were reported in the funduscopy.



**Figure 1:** Funduscopic exam. (a) congenital toxoplasma scar in the macular area and edematous papilla with erased edges. (b) congenital toxoplasma scar along the superior temporal vessels and edematous papilla with erased edges

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Figure 2: OCT images. Subretinal macular edema from papilledema



Figure 3: Posttreatment funduscopic exam. Remission of papilledema after treatment

Optical coherence tomography (OCT) confirmed bilateral papilledema with subretinal fluid at the macular level in the LE [Fig. 2]. A complete analysis was performed including serology for HIV, HSV, VZV, CMV, EBV, lues, bartonella, toxoplasma, showing RPR 1/64 serology, syphilis total antibodies positive, and IgM- specific antibodies for syphilis but a negative result in the HIV test. The cranial CT did not obtain clinical data of interest, so a lumbar puncture was performed. In the analysis of the cerebrospinal fluid, 20 leukocytes per µL, 93% monocytes, proteins 58.8 mg/dL, normal glucose parameters, Gram stain, and culture negative were present. In the serology of the cerebrospinal fluid, syphilis total antibodies were positive.

Given these findings, the diagnosis of neurosyphilis was reached so a treatment with penicillin G sodium 24 million units in continuous infusion was established for 2 weeks, developing tachycardia, headache, and generalized rash 3 h after starting the first infusion, compatible with Jarisch–Herxheimer reaction, so that prednisone 40 mg per day was associated with subsequent descending regimen. Two weeks after treatment, he presented a remission of inflammation in both the anterior chamber and the optic nerve, objectified ophthalmoscopically and in the macular study by OCT, showing a decrease in subretinal fluid [Fig. 3].

## Discussion

Ocular syphilis does not usually appear in the first phase, except for cankers on the eyelashes and conjunctiva. In the second phase, keratitis, iris nodules, iridocyclitis, episcleritis, and scleritis may appear. In the latent and tertiary phase, it is more frequent in the form of chorioretinitis and vitritis.<sup>[1,2]</sup>

The suspicion of syphilis should be high in any case of ocular inflammation. This can appear in the first 6 weeks after transmission and can be the only manifestation of syphilis, being the most frequent way to find it in the form of panuveitis.<sup>[3]</sup>

Some of these lesions described, particularly those characterized by necrotizing retinitis, could be confused with toxoplasma lesions, independently of their size. The presence of a pigmentary retinopathy is commonly associated with syphilis but not usually with toxoplasmosis.<sup>[4]</sup>

Ocular toxoplasmosis presents typical chorioretinal scar that is usually discovered by chance, except when vision is damaged in childhood. Other characteristic ocular lesions are microphthalmia, cataract, retinal detachment, and optic atrophy.<sup>[5]</sup> It is important to highlight that syphilis and HIV coinfection is common and often occurs with associated ocular symptoms. Therefore, any ocular syphilis should lead to HIV serology. So it is the case that syphilis leads to the diagnosis of HIV in 25–52% of cases.<sup>[67]</sup>

# Conclusion

Syphilis is a disease that is experiencing a rebound, especially in men between 20 and 35 years old. Given its varied and unspecific symptoms, it is a diagnosis that should be taken into account for any ocular inflammatory condition, and it is also advisable to screen for other infectious diseases, especially HIV, given the high rate of coinfection.

#### **Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed. Financial support and sponsorship Nil

#### **Conflicts of interest**

There are no conflicts of interest.

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