

# Acute vision loss as the only manifestation of syphilis - case report

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## Abstract

We present a case report of a 46-year-old immunocompetent male, in whom the first clinical symptom of syphilis was binocular visual deterioration. Due to prompt diagnosis and casual treatment reconstitution of vision occurred within four weeks.

## Introduction

Syphilis, caused by *Treponema pallidum*, is a sexually transmitted infection known for centuries. Ocular involvement is considered to be a form of neurosyphilis in terms of treatment. The disease may affect every structure of the eye and it can mimic different ocular diseases, which leads to diagnostic problems and delay in proper treatment. We present a case report of a 46-year-old immunocompetent male, in whom the first clinical symptom was binocular visual deterioration.

## Case report

The patient reported to the Ophthalmology Emergency Room due to reduced visual acuity for approximately two weeks. He had no previous history of ocular disease. On admission, visual acuity was 0.4 in the right eye and 0.1 in the left eye on Snellen charts. Intraocular pressure in both eyes was normal. Slit-lamp examination showed signs of panuveitis in both eyes and disc oedema in the left eye. The optical coherence tomography (OCT) scan showed inflammatory cells in the vitreous body with photoreceptor layer disruption and abnormalities of the retinal pigment epithelium. (Figure 1) Fluorescein angiography showed inflammation of small peripheral retinal vessels in both eyes. During the hospitalization, lab and imaging tests were performed, confirming the infection with *T. pallidum*. Blood tests were positive for syphilis EIA with RPR (rapid plasma reagin) of 1:512 titre, FTA-ABS 1:3200 titre, TPHA 1:20480 titre, negative for Toxoplasma, Borrelia, and HIV. Cerebrospinal fluid was positive for syphilis with TPHA titre of 1:80. Head MRI performed was normal. He was administered 5 million units (MU) intravenously of procaine penicillin 4 times a day for 10 days and three intramuscular doses of benzathine penicillin 2.4 MU each at one-week intervals. He was also commenced on oral methylprednisolone and topical steroids: dexamethasone and sub-Tenon's injection of triamcinolone in the left eye due to macular oedema.

## Results

Reconstitution of vision occurred within 4 weeks, best-corrected visual acuity (BCVA) was 0.9 in the right eye and 0.8 in the left eye. Fundus examination showed complete resolution of the lesions. The OCT scans showed no macular oedema and partial resolution of disc oedema. (Figure 1)

## Discussion

Syphilis might mimic different systemic and ocular diseases, and as a result, it is known as a 'great masquerader', leading to diagnostic and proper treatment delay<sup>12</sup>. The ocular involvement is broad: from anterior uveitis to neuroretinitis. Ocular manifestation may appear at any stage of the disease, but it is more common

in secondary and tertiary diseases<sup>3</sup>. Our patient had been treated for syphilis twice in the previous years (2017, 2019), however, he had no documentation confirming the cure. Thus, it remains unclear whether this is a later stage of syphilis or a reinfection. The most frequent form of ocular syphilis is uveitis<sup>4,5,6</sup>. However, the presence of the disease in the eye is not usual; hence a high level of vigilance is required in patients with uveitis to avoid wrongful treatment and as a consequence poor visual outcome<sup>7</sup>. In the large observational study conducted in Brasil in 2018, approximately one-half of the patients during follow-up visit had the improvement of BCVA of 2-lines or more<sup>8</sup>. Our patient had significant visual acuity improvement, during follow-up his visual acuity improved by 5 lines in the right eye and by 8 lines in the left eye. The spectacular visual recovery might be the effect of the thorough medical interview, prompt diagnosis and treatment.

Ocular syphilis should be considered a form of neurosyphilis regarding treatment approach<sup>2</sup>. The main treatment is parenterally administered penicillin G, in any stage of the disease<sup>4</sup>. Although, the use of corticosteroids might be controversial; they are used in ocular manifestations of syphilis. Topical steroids are used in anterior uveitis and keratitis, whereas oral and intravenous steroids are the treatment for posterior uveitis, scleritis, and optic neuritis<sup>6</sup>. All patients with syphilis infection should be tested for HIV infection, as the risk factors are similar and the progression of syphilis might be faster in HIV-positive patients<sup>9</sup>. Moreover, patients with HIV infection should be routinely checked for syphilis infection, as it is crucial for prevention of irreversible visual loss<sup>8,9</sup>. Our patient has been in a stable relationship for a year; however, his partner was never diagnosed for syphilis. It is always necessary to diagnose and treat all sexual partners. As we have seen in our patient, the role of the ophthalmologists might be critical in diagnosing infection with *T.pallidum*, as ocular manifestation could be the first and only presenting symptom of the disease.

## Conclusion

Ocular manifestations are not common; therefore, *Treponema pallidum* infection should always be considered as a differential diagnosis in patients with uveitis. The role of ophthalmologists might be crucial in diagnosis, as it may be the one and only sign of the disease. Delay in diagnosis and causal treatment may result in permanent visual impairment. Sexual partners of affected patients should be diagnosed and treated accordingly to avoid reinfection. Moreover, all patients should be tested for HIV infection and there should be and routine screening among the patients with HIV infection for syphilis.

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