

Unilateral Syphilitic Optic Neuritis without Uveitis

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Abstract

Case Report

This report describes a case of unilateral syphilitic optic neuritis without uveitis. A 56-year-old man presented with complaints of four days history of decreasing vision in his left eye. At the initial visit, the patient's best corrected visual acuity was 1.2 and 0.03 in the right and left eye, respectively. A relative afferent pupillary defect was observed in the left eye. Slit-lamp examination revealed no cells, flare or keratic precipitates in the anterior segment either eye. Fundoscopy revealed diffuse optic disc swelling with peripapillary hemorrhage in the left eye. Goldmann visual field testing identified central absolute scotoma and an enlarged blind spot in the left eye. On serological evaluation for syphilis, serum rapid plasma reagin (RPR) and treponema pallidum hemagglutination assay (TPHA) were positive (RPR 52.5, TPHA 740.0). In addition, IgM fluorescent Treponemal antibody absorbance (FTA-ABS) was positive. In contrast, cerebrospinal fluid showed negative RPR and positive TPHA (TPHA 11.8). Cerebrospinal fluid (CSF) analysis showed lymphocytic pleocytosis and increased protein content and glucose. Magnetic resonance imaging showed a swollen enhanced lesion in the left optic nerve. The patient was diagnosed with syphilitic optic neuritis and received the currently recommended treatment with intravenous penicillin G (PCG). Twenty-four million units per day of PCG were administered for 2 weeks. After 2 weeks of therapy, his left visual acuity improved to 0.3 in 2 months. However, the optic disc looked diffusely pale in the left eye. At 6-month visit, the patient was clinically stable. RPR turned out negative and there was a reduction in serological TPHA reactivity. We consider that it is essential to perform serological tests for syphilis in every patient with optic neuritis, which makes it possible to initially treat syphilitic optic neuritis with PCG.

Keywords: Optic neuritis, syphilis, neurosyphilis.

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INTRODUCTION

The incidence of syphilis has been rising internationally, therefore, neurosyphilis is still a significant medical problem [1]. Unfortunately, syphilitic ocular manifestations are often not diagnosed due to the lack of typical characteristics. Even if ocular disease can affect most of the components of the eye, uveitis appears to be the most common form of syphilitic eye disease, while optic neuritis occurs infrequently [1-5].

Herein, we report a case of unilateral syphilitic optic neuritis without uveitis.

CASE REPORT

A 56-year-old man presented with complaints of four days history of decreasing vision in his left eye. His medical history was unremarkable. At the initial visit, the patient's best corrected visual acuity was 1.2 and 0.03 in the right and left eye, respectively. A relative afferent pupillary defect was observed in the left eye.

Slit-lamp examination revealed no cells, flare or keratic precipitates in the anterior segment either eye. Fundoscopy revealed diffuse optic disc swelling with peripapillary hemorrhage in the left eye (**Figure 1**).

Goldmann visual field testing identified central absolute scotoma and an enlarged blind spot in the left eye (**Figure 2**).

Baseline blood tests were normal. On serological evaluation for syphilis, serum rapid plasma reagin (RPR) and treponema pallidum hemagglutination assay (TPHA) were positive (RPR 52.5, TPHA 740.0). In addition, IgM fluorescent Treponemal antibody absorbance (FTA-ABS) was positive. In contrast, cerebrospinal fluid showed negative RPR and positive TPHA (TPHA 11.8). Cerebrospinal fluid (CSF) analysis showed lymphocytic pleocytosis (50 cells/ μ L) and increased protein content (53 mg/dL, reference range; 10-40) and glucose (83 mg/dL, reference range; 50-75). HIV serology was negative. Fluorescein angiography showed early and late hyperfluorescence of the disc in

the left eye without peripapillitis or chorioretinitis. T1-weighted orbital contrast-enhanced magnetic resonance imaging with fat suppression showed a swollen enhanced lesion in the left optic nerve. The patient was diagnosed with syphilitic optic neuritis and received the currently recommended treatment with intravenous penicillin G

(PCG). Twenty-four million units per day of PCG were administered for 2 weeks. After 2 weeks of therapy, his left visual acuity improved to 0.3 in 2 months. Furthermore, he was treated with a single dose of intramuscular PCG. However, the optic disc looked diffusely pale in the left eye (**Figure 3**).

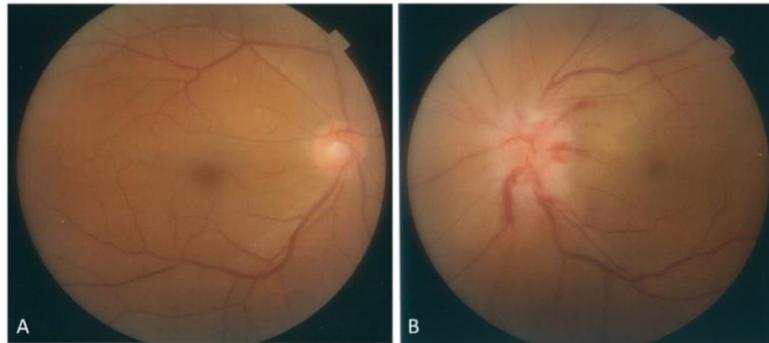


Fig 1: Photographs of the right (A) and left (B) fundus on initial examination
 Note diffuse optic disc swelling with peripapillary hemorrhage in the left eye.

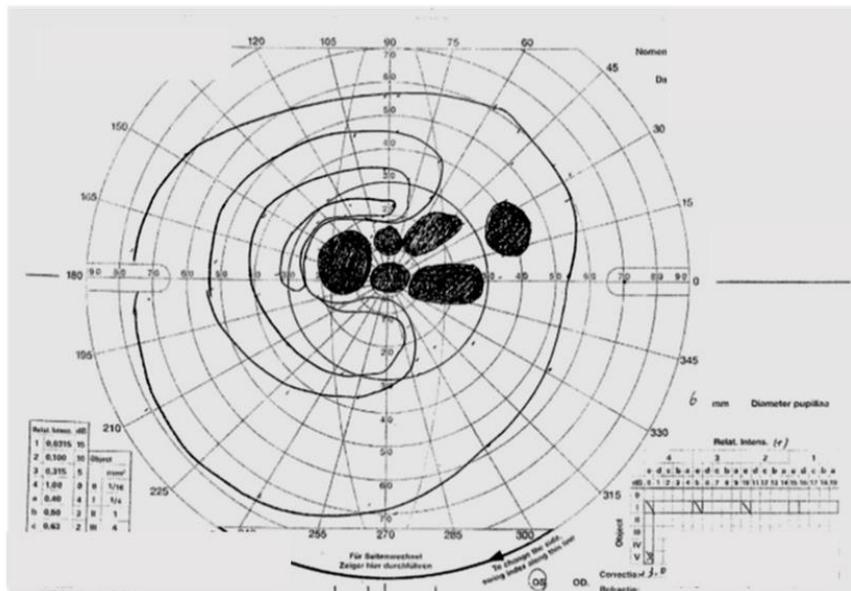


Fig 2: Goldmann perimetry of the left (A) and right (B) eyes
 Note the central absolute scotoma and an enlarged blind spot in the left eye.

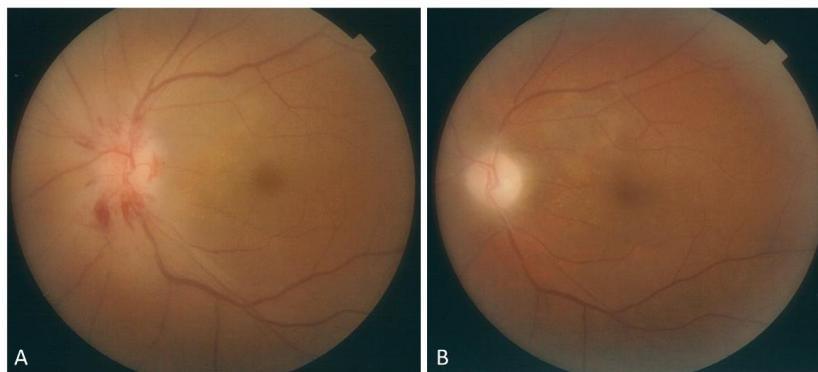


Fig 3: Photographs of the left fundus on 2 weeks (A) and 2 months (B) after the initial examination
 Note the optic disc swelling was gradually improved; however, the optic disc looked diffusely pale.

At 6-month visit, the patient was clinically stable. RPR turned out negative and there was a reduction in serological TPHA reactivity.

DISCUSSION

This is a case report of unilateral syphilitic optic neuritis without uveitis. Uveitis is the most common ocular manifestation of syphilis and is bilateral in more than 50% of cases. According to a review article of 143 patients with syphilitic uveitis, the most common presentation is posterior uveitis followed by panuveitis [6]. Anterior segment manifestations of ocular syphilis include chancre of the eyelid or conjunctiva, conjunctivitis, scleritis, keratitis, anterior uveitis, and hypopyon. Posterior segment manifestations include necrotizing or non-necrotizing retinitis, vitritis, vasculitis, chorioretinitis, perineuritis, optic neuritis and optic disc edema.

Syphilitic optic neuritis is a rare type of neurosyphilis [1-5]. Although it is desirable to distinguish syphilitic optic neuritis from noninfectious optic neuritis because steroid without PCG can exacerbate syphilitic optic neuritis, such differentiation is difficult without complicated syphilitic meningitis or uveitis. Since the optic nerve and retina are considered to be extensions of the CNS, ocular syphilis is regarded as a variant of neurosyphilis; thus, every patient with syphilitic uveitis should undergo lumbar puncture and CSF analysis for the detection of neurological involvement [7]. Ocular syphilis should be managed as neurosyphilis based on CDC guidelines, even when CSF is normal [3]. However, some authors argue that this is only necessary with neurological symptoms or higher RPR titer values [8].

CONCLUSION

Therefore, it is essential to perform serological tests for syphilis in every patient with optic neuritis, which makes it possible to initially treat syphilitic optic neuritis with PCG.

Disclosure: The authors have no conflicts of interest to disclose.

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