

## Bilateral ocular perineuritis as the presenting feature of acute syphilis infection

K. O'Connell · M. Marnane · C. McGuigan

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Dear Sirs,

We describe the case of a 48-year-old man who presented with a 2-month history of recurrent, transient visual obscurations that were not exacerbated by straining or coughing. During this period, he felt unwell with headaches, malaise, and flu-like symptoms. Visual symptoms improved but failed to resolve to two courses of oral amoxicillin prescribed for a presumed upper respiratory tract infection.

On examination, he had a normal body mass index. Bilateral disc edema (Fig. 1a) and absent ocular spontaneous venous pulsations were identified. Visual acuity (corrected), color vision, and visual fields were all normal. Slit-lamp examination confirmed disc swelling but was otherwise normal. No other neurological deficits were detected and general medical examination was normal.

MRI brain, MR venogram, and MR angiogram were all normal. A lumbar puncture examination revealed an opening pressure of 19 cm of CSF (normal range 12–22 cm of CSF). The CSF white cell was 1, protein 0.32 g/dl (normal range 0.15–0.45) with normal glucose. Positive unmatched oligoclonal bands were detected but there was a normal IgG index.

Blood tests, including a full blood count, urea and electrolytes, thyroid function tests, serum protein electrophoresis and anti-nuclear, extractable nuclear antigens, and anti-neutrophil cytoplasmic antibodies were normal or negative. An HIV test was negative, however, an initial screen for syphilis demonstrated a positive VDRL and RPR

IgM, with a titer of 1:32. Further studies including *Treponema pallidum* IgM enzyme immunoassay and *Treponema pallidum* particle agglutination were positive with a titer of >1/80, indicating acute infection. CSF treponemal studies were negative.

On further questioning, the patient recalled painless ulceration of his glans penis 12 weeks prior to presentation. He had not sought medical attention and it had resolved spontaneously. He had a long-term female partner but reported unprotected intercourse with another female 16 weeks prior to presentation.

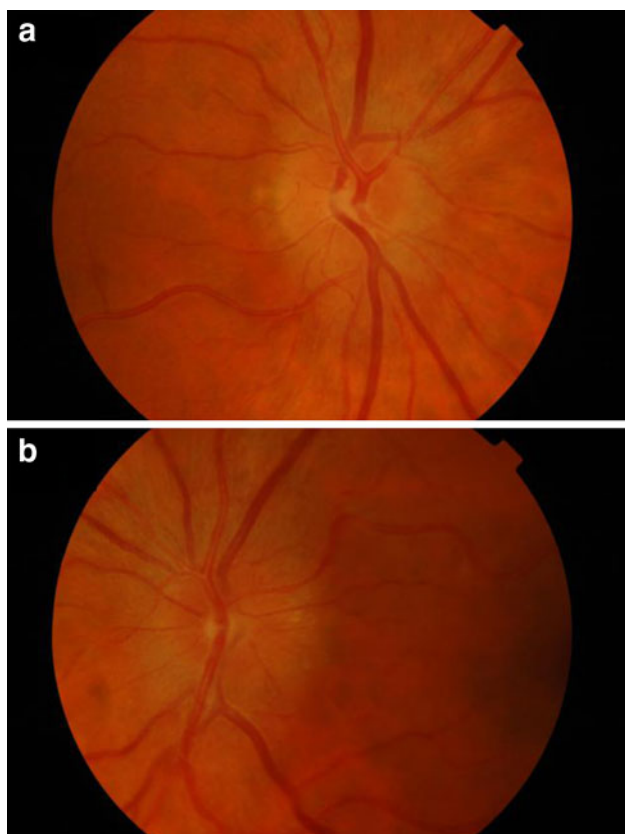
We diagnosed ocular perineuritis appearing as bilateral disc swelling as a presenting sign of active syphilis. The patient made a full clinical recovery with resolution of the visual symptoms and signs following appropriate antibiotic therapy.

Syphilis has reemerged within Europe and North America since the late 1990s. In Ireland in 2008, 221 cases (4.9/100,000) were reported [1], the majority of which being diagnosed in men who have sex with men. HIV co-infection is associated with higher rates of transmission and increased severity of symptoms [2]. Increases are considered to be a consequence of unprotected sexual encounters rather than antibiotic resistance [3].

Ocular manifestations of syphilis as the presenting feature are limited to case reports and small case series [4–9]. Symptoms can be unilateral or bilateral. The most common ocular presentation is uveitis [8], but chorioretinitis, retinitis, keratitis, retinal vasculitis, and optic neuropathy are reported, occurring at any stage of the disease [10].

Previous reports of syphilis presenting as optic disc swelling as a result of papillitis or perioptic neuritis have been associated with other evidence of central nervous system involvement as demonstrated by a CSF pleocytosis, raised protein, or positive CSF syphilis studies [4–9].

K. O'Connell (✉) · M. Marnane · C. McGuigan  
Department of Neurology, St. Vincent's University Hospital,  
Elm Park, Dublin, Ireland  
e-mail: kazzoc@hotmail.com



**Fig. 1** a, b Bilateral disc edema evident on fundoscopy

In this case, there was clinical evidence of perioptic neuritis causing disc swelling in the setting of acute syphilis infection with the non-specific finding of positive unmatched oligoclonal bands on CSF but no other evidence of neurosyphilis, which is unusual [12]. Ocular syphilis is considered synonymous with neurosyphilis [4, 9, 11] and thus requires a longer course and higher dose of appropriate antibiotic therapy. This case suggests that ocular

perineuritis may be identified before other features of neurosyphilis emerge allowing early, successful treatment.

This confirms the importance of considering syphilis in the differential diagnosis of patients with apparently swollen optic discs, normal visual fields without evidence of raised intracranial pressure, and normal CSF parameters.

**Conflict of interest** None.

## References

1. Epidemiology of syphilis in Ireland 2002–2008. <http://www.hpsc.ie>
2. Syphilis Profiles, 2008. <http://www.cdc.gov/std/syphilis/stats.htm>
3. Douglas JM Jr (2009) Penicillin treatment of syphilis: clearing away the shadow on the land. *JAMA* 301(7):769–771
4. Muldoon EG, Hogan A, Kilmartin D, McNally C, Bergin C (2010) Syphilis consequences and implications in delayed diagnosis: five cases of secondary syphilis presenting with ocular symptoms. *Sex Transm Infect* 86(7):512–513
5. Meehan K, Rodman J (2010) Ocular perineuritis secondary to neurosyphilis. *Optom Vis Sci* 10:E790–E796
6. Low GS, Edis RH (2009) Syphilitic perioptic neuritis mimicking papilloedema. *Med J Aust* 191(4):E236–E237
7. Chao JR, Khurana RN, Fawzi AA, Reddy HS, Rao NA (2006) Syphilis: reemergence of an old adversary. *Ophthalmol* 113(11):2074–2079
8. Maves RC, Cachay ER (2008) Secondary syphilis with ocular manifestation in older adults. *Clin Inf Dis* 46:e142–e145
9. Bandettini di Poggio M, Primavera A, Capello E, Bandini F, Mazzeo G, Viscoli C, Schenone A (2010) A case of secondary syphilis presenting as optic neuritis. *Neurol Sci* 31(3):365–367
10. Kiss S, Damico FM, Young LH (2005) Ocular manifestations and treatment of syphilis. *Semin Ophthalmol* 20(3):161–167
11. Gaudio PA (2006) Update on ocular syphilis. *Curr Opin Ophthalmol* 17(6):562–566
12. Singh AE, Romanowski B (1999) Syphilis: review with emphasis on clinical epidemiologic, and some biologic features. *Clin Microbiol Rev* 12:187–209