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# OCULAR SYPHILIS, A CASE OF ACUTE POSTERIOR PLACOID CHORIORETINITIS

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## ABSTRACT

**Purpose:** To report a case of acute posterior placoid chorioretinitis, a rare manifestation of ocular syphilis.

**Methods:** The patient was examined at age 59 with symptoms of subacute severe unilateral vision loss of the right eye. He underwent fundus examination, automated perimetry, optical coherence tomography imaging and fluorescein angiography. There was a close follow-up for 3 months.

**Results:** At time of presentation, the visual acuity in the right eye was hand movement. Fundus examination showed a central retinal placoid yellowish lesion going beyond the temporal vascular arcades. Optical coherence tomography showed thickening of the neuroretina and disappearance of the inner and outer segment junction. Fluorescein angiography showed in the early phase areas of hypofluorescence followed by hyperfluorescence and late staining. Serologic examinations were positive for secondary syphilis. After treatment with intravenous ceftriaxone 2g/d for 2 weeks there was a complete functional recovery with regression of the fundus lesion.

**Conclusions:** Acute syphilitic posterior placoid chorioretinitis has been described as a rare chorioretinal manifestation in patients with syphilis. The pathogenesis of this entity still remains unknown. Since there are no pathognomonic features of ocular syphilis, findings may often mimic those of other diseases. Maintaining an awareness of the different manifestations of this disease allows ophthalmologists to play a key role in the early diagnosis of syphilis.

## KEYWORDS

Chorioretinitis, syphilis, uveitis

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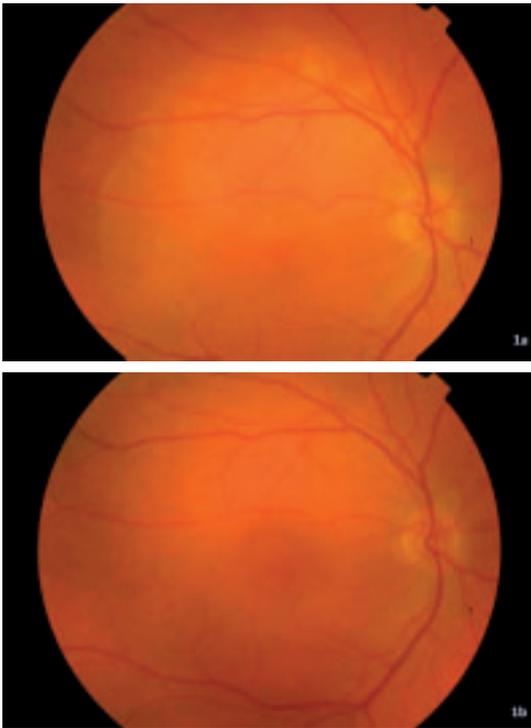
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## INTRODUCTION

Syphilis, caused by the spirochete *Treponema pallidum*, is transmitted primarily by sexual contact. The primary stage is characterized by a painless chancre at the site of penetration and normally resolves within 3 to 6 weeks. The secondary stage, characterized by systemic symptoms (malaise, fever, arthralgia) and skin lesions (maculopapular rash), marks the hematogenous dissemination of the organism (1, 2). The tertiary stage includes cardiovascular complications as well as severe neurologic sequelae. Between the secondary and tertiary stages there is a latent stage in which the patient is asymptomatic. This stage can last for months or a lifetime (2). Ocular signs can occur at all stages of the infection, but do so most often during the secondary or latent stages (3, 4). Syphilis can affect every organ and hence sometimes an ocular manifestation may be the first



*Fig. 1:* Fundus image of the right eye reveals a retinal placoid yellowish area involving the macula and going beyond the temporal vascular arcades (a). Regression of the fundus lesion in the right eye 2 weeks after treatment with intravenous ceftriaxone (b).

symptom. There is no pathognomonic ocular presentation and because of its distinct features and the recent re-emergence of syphilis in Belgium, it is a challenge to recognize the disease early so prompt treatment can be initiated.

We present a case of secondary syphilis in an immunocompetent homosexual patient whom initially presented to the ophthalmologist. The rapid diagnosis of acute syphilitic posterior placoid chorioretinitis allowed early treatment of the disease with a good visual outcome.

## CASE DESCRIPTION

A 59-year-old homosexual white male presented with a one-week history of subacute painless decrease of central vision in his right eye. There were no general complaints. There was a discrete right afferent pupillary defect. Best-corrected visual acuity (BCVA) was hand movements in the right eye and 12/10 in the left eye. Slitlamp examination showed bilateral endothelial guttae. There were no anterior chamber or vitreous inflammatory cells. On funduscopy, a central retinal placoid yellowish lesion, going beyond the temporal vascular arcades, was found in the right eye (*Fig. 1a*) with normal funduscopy in the left eye. Automated perimetry (Octopus 1-2-3 30°) testing revealed a manifest central scotoma in the right eye and a slight decrease of sensitivity in the left eye (*Fig. 2a*). Optical coherence tomography (OCT) showed disappearance of the inner and outer segment junction and thickening of the neuroretina (*Fig. 3a*). There was a normal foveal depression and thickness of the neuroretinal layers in the left eye. Fluorescein angiography showed in the early phase areas of hypofluorescence followed by hyperfluorescence and late staining, with a hot disc (*Fig. 4a-c*) and normal findings in the left eye.

Serologic examinations for syphilis were positive. Rapid plasma reagin was positive (RPR 1/256) and *Treponema pallidum* antibodies were positive. The patient was immunocompetent and there was no co-infection with HIV. General physical examination revealed no other signs of secondary syphilis. Because of penicillin allergy, a treatment with intravenous ceftriaxone 2g 1x/d for 2 weeks was initiated.

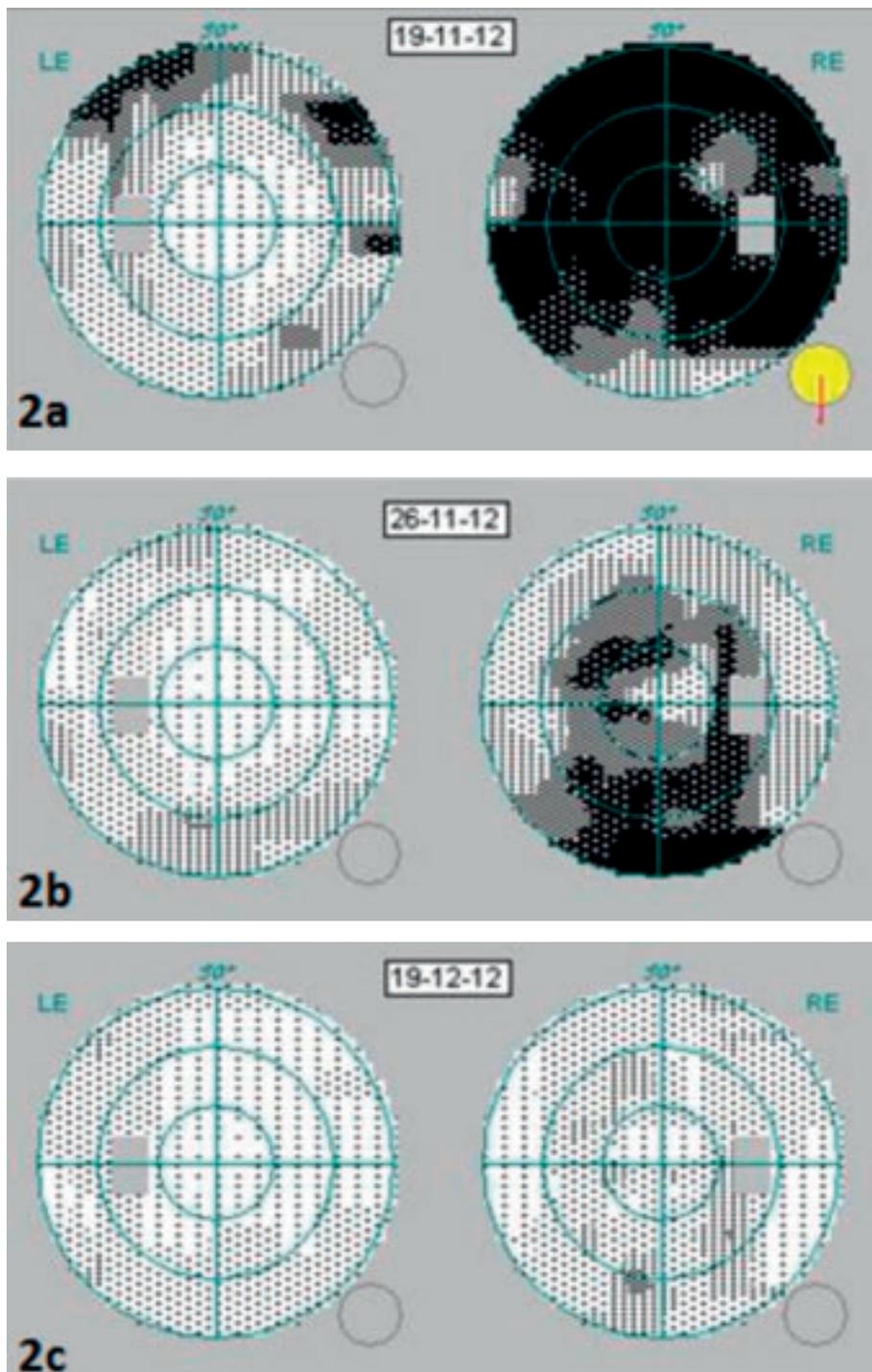


Fig. 2: Visual field testing reveals a manifest central scotoma in the right eye (RE) and a slight decrease of sensitivity in the left eye (LE) (a) Progressive normalization of the visual field of the right eye (RE) and left eye (LE) under treatment with ceftriaxone (b,c)

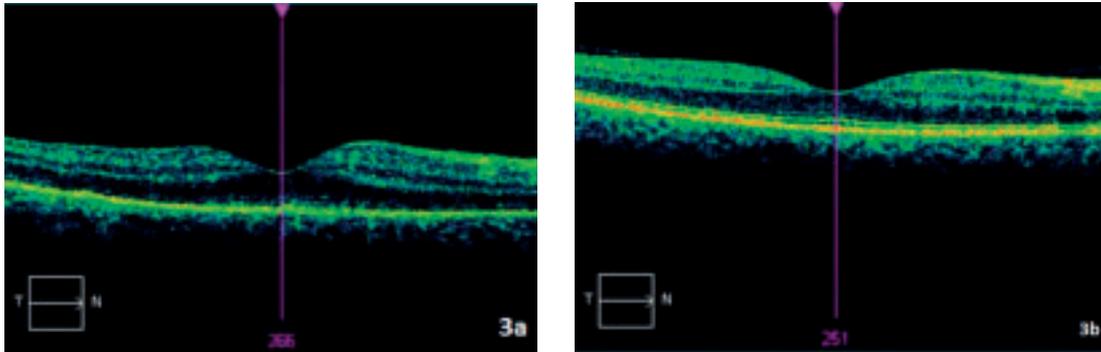


Fig. 3: Optical coherence tomography (OCT) of the right eye shows thickening of the inner neuroretina and disappearance of the inner and outer segment junction. There is no intraretinal or sub-RPE fluid (a). Macular tomography of the right eye, 3 months after treatment with ceftriaxone, shows normal foveal retinal stratification (b).

After treatment, complete functional recovery was found with improvement of BCVA to 10/10 shortly after initiation of antibiotic therapy and normalization of the visual field (Fig. 2b,c). Fundus image returned to normal (Fig. 1b) and OCT of the right macula showed normal retinal stratification (Fig. 3b).

## DISCUSSION

Acute syphilitic posterior placoid chorioretinitis (ASPPC), first reported by Gass et al (6), has been described as a rare chorioretinal manifestation in patients with syphilis.

ASPPC is characterized by a large, solitary, placoid macular lesion. The pathogenesis of the entity still remains unknown (5). It has been postulated to be the result of an active inflammatory reaction at the level of the choroid-retinal pigment epithelium complex, with repercussions in the photoreceptor inner and outer segment junction layer, comparable with our case (5). In accordance with other studies, fluorescein angiogram showed progressive hyperfluorescence with late staining of the lesion (4, 7). Visual acuity, visual field and fundoscopic lesions fully normalized after adequate treatment, suggesting temporary impairment of the neuroretina (5).

Though the visual field of the left eye also initially showed slight decrease of sensitivity, we could not find fundus anomalies. ICG examination was not performed, which might have revealed some lesions in the left eye.

Our patient presented with a subacute unilateral central vision loss before the diagnosis of secondary syphilis. There were no general complaints and general examination revealed no other manifestations of secondary syphilis. In this immunocompetent patient, the aetiology of the posterior placoid chorioretinitis was confirmed by serology to be secondary syphilis. Vision recovery followed completion of appropriate antibiotic therapy. Given that syphilis is a progressive disease that can have a serious impact on the central nervous system and the eyes, it is important to make the diagnosis as soon as possible. The fundus changes may mimic other chorioretinal disorders, including acute posterior multifocal placoid pigmentepitheliopathy (APMPPE), serpiginous choroiditis and viral retinitis, and thus delay an accurate diagnosis and initiation of appropriate therapy (7). Because of the wide spectrum of possible ocular signs (interstitial keratitis, uveitis, chorioretinitis, retinal vasculitis, optic neuritis, serous retinal detachment), syphilis is often named as the great masquerader of ocular diseases (1, 5). Although isolated anterior segment involvement in ocular syphilis is possible, a majority of cases involve the posterior segment (3). The most common ocular manifestation of syphilis is uveitis and it can occur at all stages of the infection (1). Awareness of the multiple presentations of posterior segment ocular syphilis can prevent misdiagnosis or delayed diagnosis. Since uveitis is the most common manifestation and because of the re-emergence of syphilis in Belgium in the last ten years, espe-

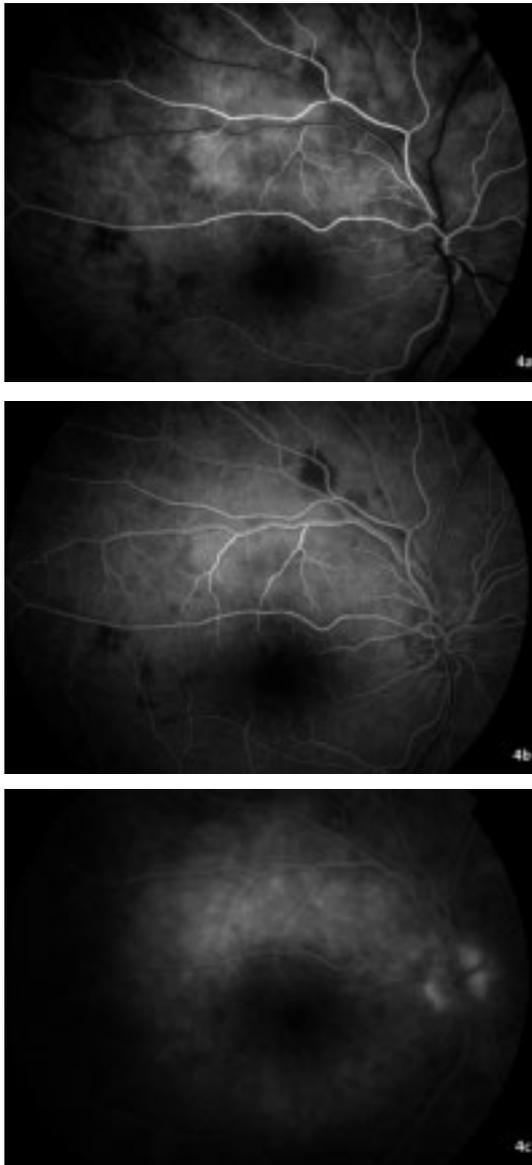


Fig. 4: Fluorescein angiography (FA) shows early hypofluorescence and progressive hyperfluorescence of the lesion (a,b). Late FA shows staining of the lesion and a hot disc (c).

cially among homosexual men and HIV infected patients (8), syphilis should always be considered in patients presenting with uveitis. Ocular syphilis is best conceived of as a variant of neurosyphilis, so it requires neurosyphilis therapy regardless of the disease stage (3). With varying recommendations on dose and duration, penicillin remains the drug of choice in

all stages of infection (3). Close follow-up is necessary to ensure treatment success. In summary, syphilis has re-emerged in Belgium in the past few years, bringing renewed attention to the diagnosis of this disease. Ocular findings are sometimes the first diagnostic features of syphilis. Unfortunately, there are no pathognomonic features of ocular syphilis, and as in ASPCC, findings may often present similarly to other diseases. Ophthalmologists may play a key role in the early diagnosis of syphilis, so maintaining an awareness of the different manifestations of the disease is important.

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