Comment

Patients with primary antiphospholipid syndrome are at risk of developing systemic and cerebral thromboembolism. The frequency of ocular vaso-occlusive disorders in patients with this syndrome ranges from 0.5 to 8%, with the majority affecting the retinal vasculature.^{2–5} Both the arterial and venous systems may be involved.

Clinical features include microaneurysms, vitreous and preretinal haemorrhage, anterior ischaemic optic neuropathy, as well as retinal and choroidal vascular occlusions.^{2–5} Iris neovascularization tends to occur early,⁶ as was demonstrated in our patient. Castanon *et al*³ reported a high prevalence of ocular disease in patients with primary antiphospholipid syndrome, with 88% of patients (15 out of 17 patients) demonstrating fundoscopic abnormalities, and 29% of patients having vaso-occlusive retinopathy.

Consecutive central retinal vein and ophthalmic artery occlusion is extremely rare in patients with primary antiphospholipid syndrome. This is the first reported case of this occurrence.

Antiphospholipid antibodies are believed to promote thrombotic events due to its action on the phospholipid component of platelet membranes and vascular endothelium, as well as on thrombotic factors such as local prostacyclin, antithrombin III, and protein C activation.^{6,7} Anticoagulation with warfarin has been advocated in patients with vaso-occlusive retinopathy as it may assist in the reperfusion of the ischaemic retina and reduce the risk of neovascularization.⁸

Ophthalmologists should consider screening for antiphospholipid antibodies in patients without obvious cardiovascular risk factors, who present with ocular and systemic vaso-occlusive disease.

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Sir,

Ocular syphilis: the return of an old acquaintance
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Syphilis is an overlooked cause of uveitis with past reports showing delays in diagnosis leading to irreversible visual loss.¹ The epidemiology of syphilis is changing, with infection now beginning to re-emerge after being thought to have been eradicated.²

Case report

A 30-year-old homosexual male, with no past medical or ophthalmic history, presented with a 3-week history of a red right eye associated with mild photophobia. Examination revealed a mild anterior uveitis with no posterior synechiae formation, vitreous activity, or retinal pathology. Usual treatment for anterior uveitis was commenced—topical steroid and mydriasis—and the patient was sent for blood tests, including RPR, FTA-ABS, ACE estimation, and HLA-B27.

The initial tests results revealed EIA positive, RPR positive >1:32, positive TPHA >2560, and positive IgM, compatible with acute infectious early syphilis. Urgent referral to the Genito-Urinary service was made.

The patient had a regular partner for 4 years but admitted to unprotected intercourse with two casual partners in the 3 months prior to presentation. Full screening for other sexually transmitted infections (including HIV) was negative. The patient was Hepatitis B immune. The patient had no other clinical features of secondary syphilis. He was commenced on a combination of i.m. benzylpenicillin sodium and i.m. procain penicillin (Jenacillin) 0.9 Mega IU daily for 12 days as is the protocol for the treatment of secondary syphilis. The patient's latest results (7 months after presentation) showed TPHA of 1:640 and RPR positive neat—indicating good serological response to the treatment.

On subsequent ophthalmic review, the patient felt subjectively better but clinically there remained evidence of inflammation for 4 months until resolution was complete—this delayed resolution probably being due to reduced penetration of the ocular tissues by the antibiotics.

Comment

Acquired syphilis is a sexually transmitted infection caused by *Treponema pallidum*. Ocular involvement is rare, typically only occurring during the secondary or tertiary stages—10 weeks to 6 months after infection. It has been estimated that 1.1% of uveitis cases are due to ocular syphilis.² Other pathology can include interstitial keratitis, chorioretinitis, neuroretinitis, or involvement of the entire optic tract.

Serology is the mainstay of laboratory testing for syphilis; however, by the time any symptoms present, most patient's do have a detectable IgG and IgM antibodies. Serological testing is broadly divided into two groups: the non-treponemal tests, which detect nonspecific treponemal antibody, for example, *rapid plasma reagin* (RPR) test. Treponemal testing detects specific treponemal antibody, for example, the *T. pallidum* haemagglutination assay (TPHA) and fluorescent treponemal antibody-absorbed (FTA-abs).³

Syphilis is on the increase again as reported by Doherty *et al.*⁴ Between 1960 and the late 1970s, homosexually acquired syphilitic infection increased, keeping in with liberalisation of attitudes towards homosexual behaviour. However, changes in behaviour in response to HIV/AIDS, particularly among homosexual men, contributed to dramatic

reduction in syphilis in the 1980s. During the 1990s, until 1998, the number of cases diagnosed, remained stable in England, but then increased by 415% to 2001 with males in the age group of 25–34 years having the highest rate—5.5 per 100,000.⁵ In 2000, 48% of infections in men were homosexually acquired, rates being highest in London and the North West. Two-thirds of cases presented with symptoms of secondary syphilis—such as fever, malaise, pharyngitis, skin rashes, and lymphadenopathy—as well as the less common problems such as anterior uveitis.⁶

It is a matter of individual professional opinion as to whether taking an in-depth sexual history within the ophthalmic setting is appropriate, but a simple medical history, including questioning with regard to the common symptoms of primary or secondary disease as detailed above should be taken with further investigations being based upon the response. Faced with the re-emergence of this infection, with the capability to mimic any systemic or ocular inflammatory disease, it is prudent to bear the diagnosis of this potentially blinding condition in mind. We reiterate the 20-year-old message of Spoor,⁷ which remains pertinent, in urging consideration of syphilis in resistant or recurrent cases of uveitis.

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Sir,

**Superior macular sparing in central retinal artery
occlusion due to sickle cell anaemia**

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We describe an unusual manifestation of sickle cell retinopathy, in which part of the macular circulation was spared even though the patient presented with features of a central retinal artery obstruction.

Case report

A 32-year-old African male with homozygous sickle cell disease (SS disease) presented to the eye casualty with a 24-h history of blurred vision in the right eye. He had consumed several pints of alcohol on the two evenings prior to presentation, but had failed to ensure a full rehydration with water. On presentation, his vision was 6/60 in the right eye and 6/6 in the left. There was a right afferent pupillary defect. Conjunctival signs of sickling, first described by Paton,¹ were noted in both the eyes. Fundus examination revealed a milky white retinal appearance consistent with a central retinal artery occlusion (CRAO) but with a zone of normally perfused macula, of approximately 2 clock hours size, superiorly (Figure 1). Grade 1 sickle cell retinopathy was noted in the left eye.

He was admitted for rehydration with normal saline to reduce blood viscosity and improve perfusion. The haematologists commenced prophylactic treatment with hydroxyurea, 2 g daily, to prevent a similar occlusive event in the other eye. Hydroxyurea increases levels of foetal haemoglobin (HbF). HbF interferes with the polymerisation of sickle haemoglobin. The higher its concentration, the lower the sickle haemoglobin. Sickle red blood cells from patients with high HbF are less adherent to vascular endothelium. Hydroxyurea is the only prophylactic drug studied for the prevention of systemic crises in a randomised controlled trial. Its main side effect is myelosuppression requiring two-weekly monitoring of blood counts.² Exchange transfusion was also considered to restore vascular perfusion. It has been

Figure 1 Day 1 fundus appearance showing CRAO with partially perfused macula superiorly.

successfully performed in a 25-year-old patient with bilateral central retinal artery occlusions 8 h postocclusion.³ In this case, exchange transfusion was not felt to be beneficial because of the late stage of presentation. Reperfusion may have been established, but retinal function in the infarcted area would not have recovered.

A fluorescein angiogram (Figures 2a–d) showed features consistent with a central retinal artery occlusion with substantial shutdown of retinal vasculature.

However, there was no visible single thrombus. There was patency of the vessels to fluorescein to a point 1 to 2 disc diameters beyond the disc margin on the temporal side. Part of the macular circulation appeared spared, but this was not due to a patent cilioretinal artery. A late-phase angiogram showed staining of vessel walls, indicating sluggish circulation.

After 2 weeks, vision improved to 6/18 and a month later vision was 6/9 in the right eye. However, he had a very constricted field. Fundus examination showed sequelae of CRAO with optic atrophy and attenuated sheathed blood vessels. (Figures 3a and b). The patient reported using paracentral viewing to maximize visual potential.

Comment

Ocular complications in SS disease are unusual. They are much more common in sickle cell thalassaemia (Sthal) and sickle cell C disease (SC).⁴ The postulated reason is that in SS disease, the severe anaemia and thus low haematocrit lead to a lower blood viscosity than in Sthal or SC where anaemia is less marked and the haemoglobins exist in a higher concentration. Sickling has