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SHORT COMMUNICATION

Case report

Hypo-Estrogenemia in retinal vasculopathy due to primary antiphospholipid antibody syndrome

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PURPOSE. *To report hypo-estrogenemic state in a case of recurrent vitreous hemorrhages due to primary antiphospholipid antibody syndrome.*
METHODS. *Interventional case report. A 40-year-old woman presented with recurrent vitreous hemorrhages. Treated initially with laser photocoagulation followed by hormone replacement therapy.*
RESULTS. *Cessation of vitreous hemorrhage since starting hormone replacement therapy (twenty months ago).*
CONCLUSIONS. *This is the first documented case of hypo-estrogenemia in lupus anticoagulant retinopathy. The response of this condition to estrogen is worth exploring. (Eur J Ophthalmol 2003; 13: 819-21)*

KEY WORDS. *Antiphospholipid antibodies, Hypo-estrogenemia, Lupus anticoagulant retinopathy, Primary antiphospholipid antibody syndrome*

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INTRODUCTION

Antiphospholipid antibody (APLA) syndrome is a condition characterized by the presence of anticardiolipin and/or lupus anticoagulant antibodies. The term primary APLA syndrome is used when there is an associated history of arterial or venous thrombo-embolism, with recurrent history of spontaneous abortions, but without features of Systemic Lupus Erythematosus (SLE).

We report a case of retinal ischemic vasculopathy due to antiphospholipid antibody syndrome and its association with low level of estrogen.

Case report

A 40-year-old healthy woman presented with four episodes of vitreous hemorrhage in the right eye over an eighteen-month period. She had a history of ventricular septal defect, with subsequent spontaneous closure but no other significant past medical history. There were no symptoms suggestive of vasculitis. She had two children and no history of abortion. She smoked 10 cigarettes per day but drank minimal alcohol. There was no family history of thrombosis or coagulopathy. There was nothing of note in the physical examination specifically no signs suggestive of SLE. On examination after the first episode, visual acuities were 6/9 in the right eye and 6/5 in the left eye. Examination of the anterior segments was unremarkable. Dilated fundoscopy showed vitreous hemorrhages and a gliotic fibrovascular lesion in the periphery of the temporal retina (Fig. 1).

All routine investigations were normal including full blood count, coagulation screen, U and Es, calcium, ESR, CRP and chest X-ray. Autoantibody screen including ds-DNA, toxocara antibodies and serum an-

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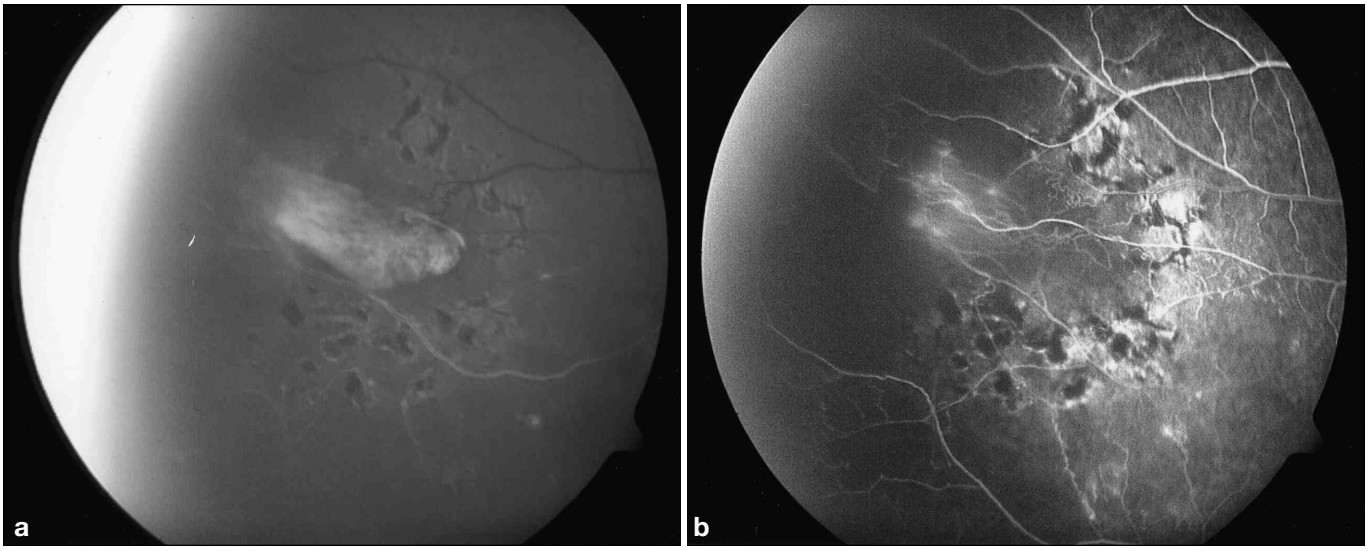

Fig. 1 a, b - *Gliotic fibrovascular lesion in the periphery of the temporal retina.*

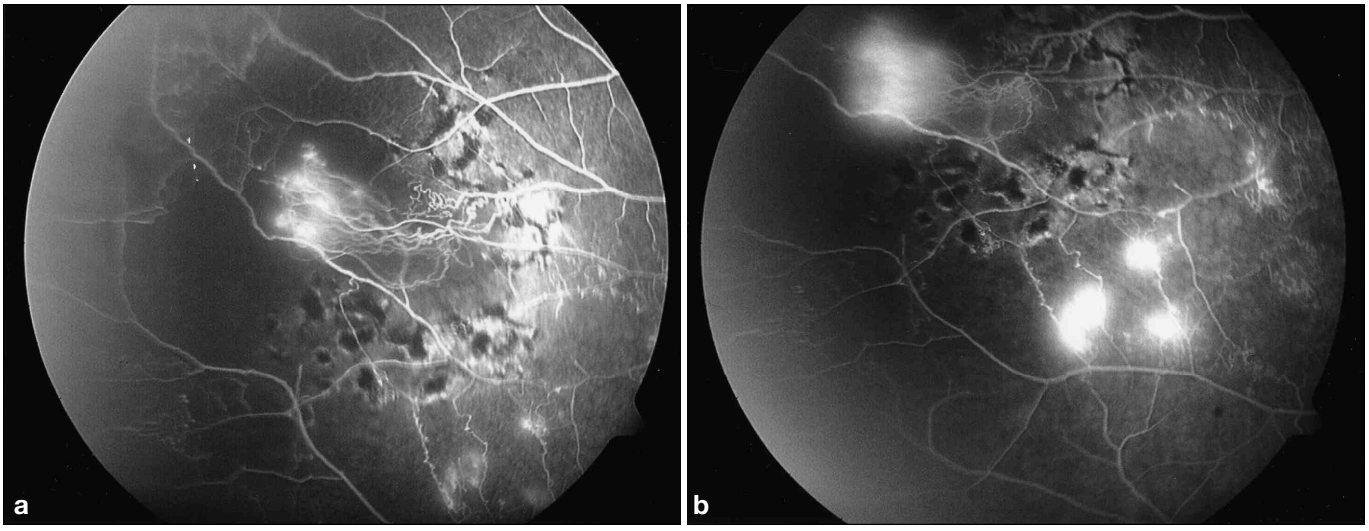

Fig. 2 a, b - *Fluorescine angiography reveals peripheral vascular occlusion with neovascularization and peripheral retina ischemia.*

giotensin converting enzyme were also normal. Differential diagnoses considered at this stage included retinal vasculitis, retinal angioma and retinal operculum. Initial focal shots of laser were given and subsequent fluorescine angiography revealed peripheral vascular occlusion with neovascularization and peripheral retinal ischemia (Fig. 2).

She developed another vitreous hemorrhage four months later. Further laser treatment was delivered in the form of sectorial retinal photocoagulation on the temporal side; however, a further episode of vitreous hemorrhage occurred seven months later.

The presence of lupus anticoagulant was indicated by prolonged Diluted Russell Viper Venom (DRVV) time of 1.58 (normal <1.19) and a washed platelet correction of 1.16 (normal <1.11) and positive IgM anticardiolipin antibody of 7.7 U/ml (normal <7 U/ml).

Treatment with aspirin was considered, however, due to the high risk of developing further vitreous hemorrhages, it was decided, after liaison with the hematologists, not to start her on aspirin.

Three months later, she had a fourth episode of vitreous hemorrhage. Repeated screening for IgM anticardiolipin antibodies was positive over a period of

more than six months with high DRVV ratio, washed platelet correction and Kaolin clot time.

The patient reported an association between the menstrual cycle and the vitreous hemorrhages, which had all occurred premenstrually (in the luteal phase). She was also complaining of increased irritability and lethargy premenstrually, with no change in the menstrual history. Hormonal investigation showed a low level of estrogen (73.4) and high level of FSH (9.4 IU/l).

Evorel patches (HRT, releasing estradiol 50 mgm/24 hours and norethisterone acetate 170 mgm/24 hours) were prescribed. She has had no further episodes of vitreous hemorrhage during the subsequent 20 months. She has also reported an improvement in the premenstrual symptoms.

DISCUSSION

Lupus anticoagulant retinopathy is the association of vaso-occlusive retinopathy with primary APLA syndrome (1,2). Retinal ischemia and retinal neovascularization with subsequent vitreous hemorrhage has also been reported in this retinopathy (1, 6).

Assay for anticardiolipin and lupus anticoagulant antibodies is recommended in patients with occlusive retinal vascular events especially those who do not have conventional risk factors of retinal thrombosis (2). Treatment options in this condition include low dose aspirin administration, which is of therapeutic value in preventing thrombo-embolic events in this group of patients (3), however, recurrent attacks have been reported whilst on aspirin (4). Our patient was at high risk of hemorrhage, therefore aspirin was not started.

Long-term oral anticoagulation treatment is another treatment option and has been reported to be associated with normalization of the anticardiolipin antibodies allowing therapy to be stopped after two years without further thrombo-embolic events (5).

Treatment with laser pan-retinal photocoagulation appears to stabilize neovascularization (1). Vitrectomy is helpful in recurrent vitreous hemorrhages (6).

Screening for estrogen level in this condition and the use of estrogen in primary APLA syndrome has not been described in the literature. The role of estrogen in preventing bleeding from an abnormal vessel is unclear, however it may cause squamous metaplasia of the epithelium (7). Estrogen has been used to prevent epistaxis in hereditary hemorrhagic telangiectasia (7) and bleeding in gastrointestinal vascular malformation (8).

The use of estrogen therapy in this patient in whom vitreous hemorrhage occurred in association with an apparent estrogen deficiency is a novel therapeutic option which has been associated with a remission from further vitreous hemorrhage.

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