that both the weight loss and proliferation were accelerated by the CML and, in addition, diabetic eyes are known to tolerate anaemia poorly.[1]

Proliferative diabetic retinopathy is many times commoner than retinopathy related to leukaemia. However, a FBC is inexpensive and easy to perform. We would recommend that it should be included in the investigation of any patient, diabetic or not, developing a proliferative retinopathy.

We thank Southampton Eye Unit medical illustration for providing the photographs.

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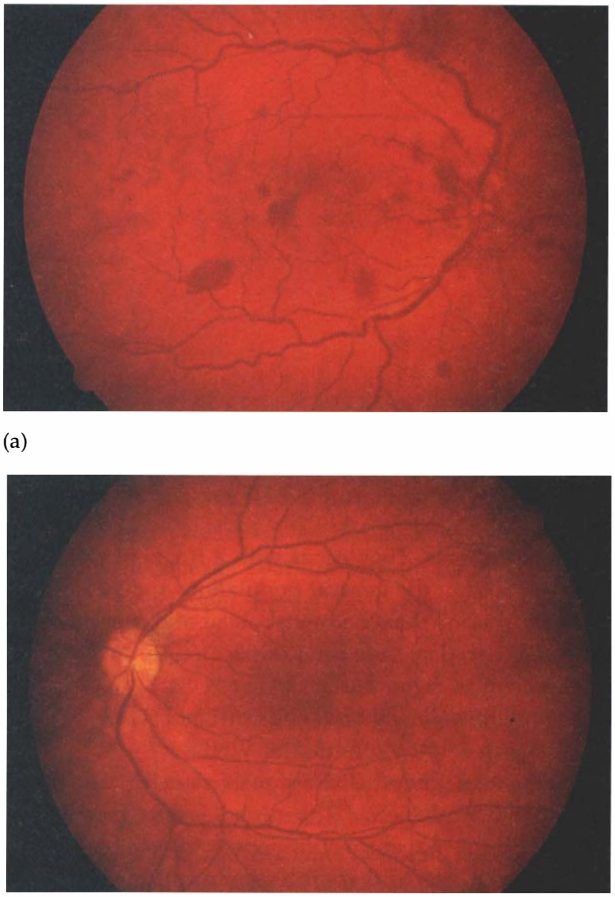
Sir,

Drug or drusen? Central retinal vein occlusion in a young healthy woman with disc drusen

Venous occlusion secondary to optic disc drusen is a rare clinical entity. We report a woman who had disc drusen, who suffered a central retinal vein occlusion following ingestion of post-coital hormonal contraception.

Case report

A 33-year-old female physical education teacher presented with a history of sudden-onset blurring of vision in her left eye. History revealed ingestion of post-coital hormonal contraception, the Schering PC4 pill, containing 500 μg norgestrel and 50 μg ethinyloestradiol[1] 3 days previously, after which she suffered nausea and diarrhoea. Past medical history included a partial thyroidectomy for autoimmune thyroiditis with current medication of thyroxine 100 μg daily. Contraceptive history included taking the oral contraceptive pill but years previously. She neither smoked nor drank alcohol and she exercised moderately. She was an emmetrope with visual acuities of 6/6 right and 6/18 left. There was no relative afferent pupillary defect. Intraocular pressures were normal. There was a central retinal vein occlusion (Fig. 1a). Blood pressure was normal at 120/80 mmHg. Investigations including full blood count, urea and electrolytes, serum glucose, erythrocyte sedimentation rate, plasma viscosity, thyroid function tests, fasting cholesterol and lipid profile were all entirely normal.



(a)

(b)

Fig. 1. *(a) Central retinal vein occlusion. (b) Complete resolution of the retinal changes 1 month later.*

Thrombophilia screen including factor V Leiden mutation detection, prothrombin gene mutation detection, clotting screen, lupus anticoagulant, anticardiolipin antibodies, protein C, protein S and antithrombin III were all normal. B-scan ultrasonography demonstrated the presence of bilateral optic disc drusen (Fig. 2). The patient was reviewed 1 month after presentation, when vision was restored to 6/6 left eye with complete resolution of the retinal changes (Fig. 1b).

Comment

Central retinal vein occlusion (CRVO) usually occurs in older adults and is often associated with systemic disease. In younger patients, aetiological considerations should include coagulant abnormalities or underlying conditions such as hormone ingestion, mitral valve prolapse and migraine.[2]

Disc drusen in association with CRVO are detailed histologically but rarely clinically recognised.[3] CRVO can arise from external compression secondary to drusen of the optic disc.[4] B-scan ultrasonography is the investigation of choice. Drusen constitute concentrically laminated calcified bodies which are situated anterior to

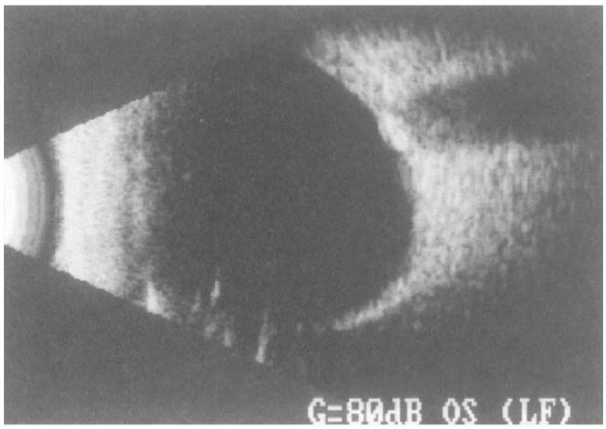


Fig. 2. *B-scan ultrasonography demonstrating disc drusen at the optic nerve head.*

the lamina cribrosa. They occur with a frequency of 3.4–20 per 1000 in the general population, and 72% are bilateral.[5] Abnormal axonal metabolism and possibly axonal degeneration have been implicated in their causation, which can occur at any age.[6]

The pathophysiology of venous thrombosis is determined mainly by the triad of Virchow (hypocirculation, endothelial lesion of vessels, coagulation disturbances).[7] The mechanism for thrombus formation in this patient would appear to be a combination of altered flow, the drusen causing distal narrowing of the vein and a hypercoagulable state. Green *et al.*[3] describe secondary changes in the vein with narrowing of the blood column and disturbance and slowing of the venous blood flow. The induced turbulence of venous flow may then lead to endothelial damage and secondary thrombosis and occlusion.[3]

Oral contraceptives increase the risk of retinal vascular lesions,[8] and recent data support the view that retinal vein occlusion is a contraindication to the further use of hormonal contraception.[9] Norris and Bonnar[10] suggested that the increased incidence of thrombovascular disease is mediated by an increase in the activity of coagulation factors VII, X and fibrinogen. However, increased fibrinolysis and enhanced platelet activity have also been demonstrated, thus preserving haemostatic balance.[10]

This case report illustrates that optic disc drusen in association with CRVO is recognised more histologically than clinically and that investigatively B-scan ultrasonography should be performed. It further demonstrates the multifactorial aetiology of CRVO. In this patient the presence of disc drusen alone was not sufficient to cause the occlusion. Hypercoagulability caused by hormone ingestion precipitated a CRVO. Normal retinal vascular anatomy and visual function were restored, reflecting the transient effect of the hormone on the coagulation mechanisms, allowing resorption of the clot before secondary changes occurred.

This suggests a possible role for thrombolytic therapy already investigated by Kohner *et al.*,[11] who demonstrated a treatment benefit with streptokinase. However, this may have been responsible for vitreous haemorrhage in 15% of patients. At the time of this study, modern vitrectomy was not established and these patients suffered irreversible visual loss. Recent pilot studies suggest low-dose fibrinolytic therapy was an ideal approach to fibrinolysis in retinal vein occlusion in light of the fact that the occurrence of bleeding complications constitutes a dose-dependent problem.[12] We feel that this work should be revisited and that the benefits of streptokinase in selected cases should be investigated in a controlled clinical trial.

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Sir,

Worsening of an existing hemispheric retinal vein occlusion following further hypotony procedure

Retinal vein occlusion is well recognised as a complication of high intraocular pressure in glaucoma patients.[1] It is rarely known as a result of hypotony following glaucoma filtering surgery. We report a patient