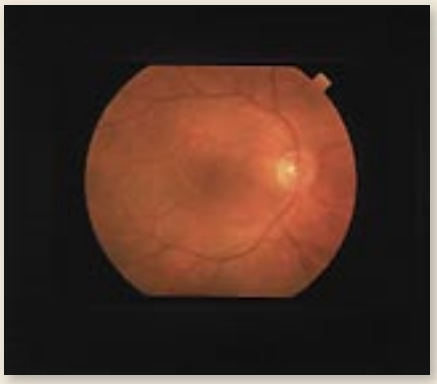
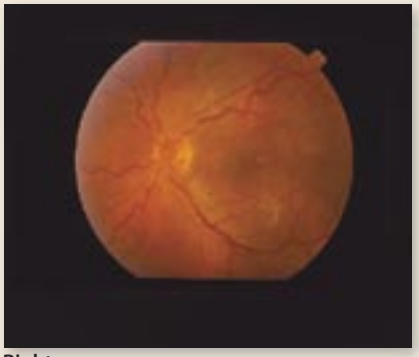
Ophthaproblem

Mark A. Mandell Sanjay Sharma, MD, MSC, MBA, FRCSC



Left eye



Right eye

Photo credit: *Ophthalmic Photography Laboratory of Queen's University, Hotel Dieu Hospital, Kingston, Ont.*

A 59-year-old man presented because he had suddenly lost the vision in his left eye 2 weeks earlier. He denied injury to the eye, new floaters, flashes, or pain in the eye. He had had mild central blurring in both eyes for 5 months. His medical history included hyperlipidemia for 8 to 10 years, hypertension, proteinuria (11 g/d on 24-hour urine collection), severe edema in his legs, and deep vein thrombosis. He had had mild hypertension for 2 years, but had no family history of hematologic disorders.

On examination, his visual acuity was 20/400 in his right eye and 20/60 in his left eye, with no improvement on pinholing. Results of his ocular examination were within normal limits, except for the fundus changes illustrated.

The most likely diagnosis is:

1. Age-related macular degeneration
2. Central retinal vein obstruction
3. Acute retinal artery occlusion
4. Diabetic retinopathy

Answer on page 1631

Mr Mandell *is a third-year medical student at the University of Toronto in Ontario.*
Dr Sharma *is an Associate Professor of Ophthalmology and an Assistant Professor of Epidemiology at Queen's University in Kingston, Ont.*

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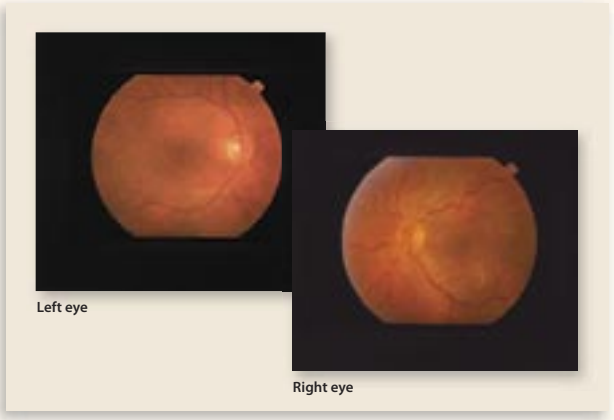
2. Central retinal vein obstruction

This patient has a central retinal vein obstruction (CRVO) in his right eye complicated by severe macular edema in both eyes. Central retinal vein obstruction is a common retinal vascular disorder with potentially blinding complications.[1] The most common presenting symptom is an abrupt, painless decrease in central vision. Ophthalmoscopy of the eye with CRVO typically shows scattered retinal hemorrhages of varying degrees of severity in all retinal quadrants, usually accompanied by venous tortuosity. Retinal vein occlusion has been associated with such systemic diseases as hypertension, cardiovascular disease, diabetes, and hyperviscosity.[2]

The finding of CRVO in this patient led to a diagnosis of membranous glomerulonephritis (a type of nephrotic syndrome). Patients with membranous glomerulonephritis lose abnormally high amounts of several proteins through their urine, including proteins of the anticoagulant system such as antithrombin, protein C, and protein S.[3] Low plasma levels of these coagulation inhibitors, in turn, yield a hypercoagulable state. Nephrotic syndrome is principally defined on the basis of the presence of heavy proteinuria (more than 3.5 g/d), often accompanied by hypoalbuminemia, hyperlipidemia, lipiduria, and edema.[4] The ophthalmologic findings in this patient are likely caused by increased hydrostatic pressure secondary to venous occlusion and reduced oncotic pressure secondary to proteinuria.

Management

Most patients who develop CRVO are older than 50; 50% to 70% have associated hypertension, cardiovascular disease, or diabetes mellitus. Most authors have concluded that successful treatment of these systemic conditions is not effective in managing ocular complications.[1] Trempe reported, however, that meticulous treatment of an underlying medical condition can reduce both complications and the frequency of development of CRVO in the other eye.[5,6] Acute anticoagulation is associated with retinal hemorrhage and is not recommended.[7]



People who have good vision (>20/40) have a fair chance of retaining good vision. In contrast, people with poor vision are likely to have widespread ischemia, to be unlikely to recover their vision, and to have an increased incidence of rubeosis and angle neovascularization.[5] The Central Vein Occlusion Study Group recommends that all eyes with CRVO undergo a careful initial examination including best-corrected visual acuity, undilated slitlamp examination including gonioscopy, measurement of intraocular pressure, and dilated fundus examination. Color fundus photographs and fluorscein angiography are optional.[8]

Because the risk of developing iris neovascularization or angle neovascularization is greater in the first 6 months, it is recommended that all eyes with CRVO be followed closely for development of neovascularization at least monthly for the first 6 months after onset of symptoms.[5,8] Should either iris neovascularization or angle neovascularization develop, panretinal photocoagulation should be done promptly.[5,8,9] The Central Vein Occlusion Study Group also evaluated the potential efficacy of grid laser photocoagulation for macular edema secondary to CRVO as opposed to macular edema secondary to diabetic retinopathy. The study failed to demonstrate the benefit of this treatment for this problem.[8] Recently, investigators have had promising results in terms of both reducing the amount of fluid and improving vision after intravitreous injections of steroids.[10] *...continued on page 1632*

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Recommendations

Patients presenting with CRVO should be referred to an ophthalmologist for assessment and management. In addition, these patients should be evaluated to identify possible underlying systemic causes.

References

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