



Acute retinal necrosis presenting as bilateral acute angle closure

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See Online for appendix

A 55-year-old woman presented to the emergency department in January, 2014, with 1 day of headache, vomiting, and painful vision loss. On examination she was systemically well and was referred to ophthalmic casualty. Best corrected visual acuity was counting fingers at 3 m, and intraocular pressure (IOP) was 40 mm Hg bilaterally. Examination of both eyes showed corneal haze, mid-dilated pupils, and closed angles on gonioscopy (appendix). The fundus was normal, with no cells in the anterior chamber or vitreous. Since primary angle closure is rarely bilateral, we sought a secondary cause. Ultrasound biomicroscopy showed supraciliary fluid (appendix), but we could not elicit history of any possible cause, such as psychotropic drugs. We started topical steroids 2-hourly, oral acetazolamide 250 mg four times a day, atropine 1% drops three times a day, topical brimonidine 0.2% and timolol 0.5% twice daily, and systemic steroids once daily. The next day her best corrected visual acuity had improved to 6/12, and IOP came down to 22 mm Hg in both eyes. We stopped oral acetazolamide.

However, during the next 3 days, her vision decreased to 6/60, both eyes had peripheral choroidal detachments (appendix), and yellowish retinal lesions appeared in the periphery of both eyes (figure), with cells in the vitreous cavity, suggestive of acute retinal necrosis.¹ The IOP reduced to 6 mm Hg in both eyes. We stopped all antiglaucoma drugs, and sent a sample of the aqueous humour for PCR detection of herpes simplex virus (HSV), cytomegalovirus, varicella zoster virus, and toxoplasma, and blood tests for HIV. PCR was positive for HSV and showed a 272 bp product obtained after amplification of the glycoprotein D region. HIV tests were negative. We started the patient on intravenous aciclovir 1 g and topical atropine 1% three times daily,

and topical betamethasone 0.1% hourly, with rapid regression of choroidal effusion and retinitis lesions. After 2 weeks we changed intravenous acyclovir to oral valaciclovir 1 g three times daily for 6 weeks and tapered her steroids. At follow-up 3 months later her vision was 6/12 and IOP 10 mm Hg in the right eye and acuity 6/9 and IOP 12 mm Hg in the left eye, with complete resolution of the retinitis (figure).

Bilateral simultaneous acute angle closure is rare, though it has been reported secondary to drug treatment² and HIV infections³ and is unlikely to be a primary disease. Bilateral angle closure with choroidal effusion needs treatment with cycloplegics, corticosteroids, and aqueous suppressants,^{2,3} but the underlying condition must be diagnosed and treated as well; mistaking the condition for primary angle closure and treating with iridotomy or pilocarpine will only make it worse. Acute retinal necrosis is a fulminant necrotising retinitis, usually unilateral, caused by herpes viruses.¹ It has a poor prognosis unless antiviral treatment is started quickly.⁴ Early diagnosis of acute retinal necrosis is based on virus-specific PCR in aspirated intraocular fluid. In our patient appropriate timely management prevented possible blindness. Bilateral acute angle closure should be a red flag, prompting the doctor to look for underlying conditions.

Contributors

All authors managed the patient. SK and NL wrote the report and all authors approved the final draft. Consent to publish was obtained.

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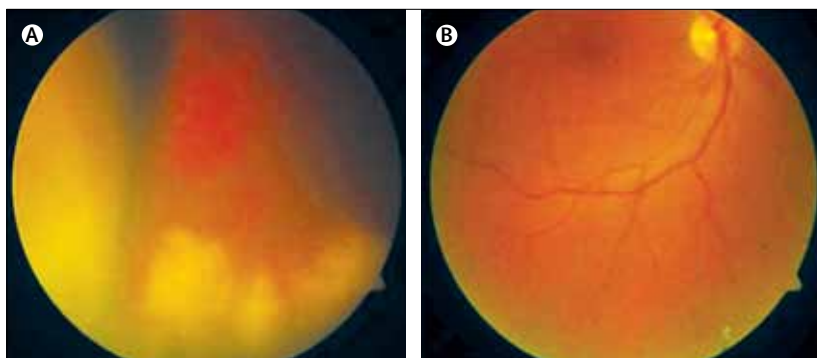


Figure: Acute retinal necrosis

(A) Funduscopy of the right eye showing confluent retinal lesions adjacent to a large choroidal bulla. (B) Complete resolution of the choroidal effusion and retinal lesions after antiviral treatment.