Serous retinal detachment following carotid-cavernous fistula

Ocular complications of carotid cavernous fistulas (CCFs) are common, and the treatment of these fistulas is usually guided by the visual prognosis. Visual loss is often non-reversible, and is usually related to glaucomatous optic neuropathies. Retinal venous stasis and disc oedema are also common and can be complicated by retinal vein occlusions. We present a case of choroidal effusion and retinal detachment, which resolved after treatment of the CCF.

Case report

A 66-year-old man presented with a 5-month history of right-sided headache and redness of the right eye, and diplopia for 1 week. Visual function was normal. The episcleral vessels were dilated in the right eye, which was ophthalmoplegic (fig 1A). Intraocular pressures (IOP) were 28 mm Hg in the right eye and 16 mm Hg in the left eye. Hyperaemia of the right optic nerve was seen, with dilation of the veins (fig 1B). The diagnosis of indirect CCF was confirmed by brain magnetic resonance imaging and a conventional angiogram (fig 1C,D). Treatment of the CCF was delayed because the patient was anticoagulated for a recent deep vein thrombosis. His IOP was managed medically. Eight weeks later, he developed severe painful visual loss in the right eye (20/300), with a dilated pupil, proptosis, complete ophthalmoplegia and serous retinal detachment and choroidal detachment of the right eye (fig 2A–C). A repeat angiogram did not show any superior ophthalmic thrombosis. His CCF was treated by transorbital coil embolisation. Two weeks later, visual acuity had returned to normal, and the serous and choroidal detachments had resolved.

Comment

Non-rhegmatogenous retinal detachment and choroidal effusion or detachment are extremely rare complications of indirect CCF. The proposed mechanism is venous stasis and orbital congestion related to impaired venous drainage into the cavernous sinus. This case illustrates the reversibility of such complications and the excellent visual prognosis when the CCF is treated rapidly.

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References


The International Intravitreal Bevacizumab Safety Survey

We read with interest the article by Fung et al assessing complications related to single or repeat intravitreal injections of bevacizumab.

Figure 1 Initial evaluation. (A) External photograph showing proptosis, redness and ophthalmoplegia of the right eye. (B) Fundus photograph of the right eye showing optic nerve hyperaemia with venous dilatation. (C) Axial T1-weighted magnetic resonance image showing dilatation of the right superior ophthalmic vein (arrow). (D) Right internal carotid angiogram showing the carotid-cavernous fistula with anterior drainage into the superior ophthalmic vein (arrows).

Figure 2 Eight weeks later. (A) Fundus photograph of the right eye showing the presence of a large serous retinal detachment including the entire posterior pole. (B) Optical coherence tomogram (OCT) of the right macula showing intraretinal and subretinal fluid consistent with a serous retinal detachment. (C) Ultrasound of the right eye showing the serous elevation of the retina in the posterior pole, and the low choroidal detachment throughout the periphery.