ciliary body, then congenital glaucoma may arise. A genetic basis for many developmental glaucomas is increasingly being demonstrated, and trisomy 13 is a further addition to the list.

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Sir,
Retinal macroaneurysm with macular hole and subretinal neovascular membrane

A rare case of an untreated retinal macroaneurysm with an underlying subretinal neovascular membrane and a macular hole is presented.

Case report

A 71-year-old hypertensive lady presented to the ophthalmic casualty department with visual distortion

and sudden onset of floaters in her right eye. There is no history of headache, ocular pain, flashing lights, or trauma. She was a known case of left branch retinal artery occlusion. Her best-corrected Snellen acuity was 6/5 in the right and 6/9 in the left eye. Anterior segment examination was normal. Fundus examination revealed a macroaneurysm involving the superotemporal retinal artery in the right eye with a large subretinal, preretinal haemorrhage, and a mild vitreous haemorrhage. The patient was advised about the diagnosis, a carotid Doppler requested and a follow-up appointment arranged in 8 weeks.

On review at 8 weeks, a significant reduction in vitreous haemorrhage and a thrombosed macroaneurysm in the supratemporal region with accompanying retinal and macular oedema was recorded. Laser treatment was deferred due to the presence of a large subretinal haemorrhage. Doppler studies of internal carotids showed 50% stenosis in the left carotid with no significant disease on the right side. She was on aspirin and was advised a second antiplatelet agent.

On a further review in 6 weeks, her visual acuity was 6/60 in right eye and 6/9 in left eye. Retinal examination still showed an occluded macroaneurysm but now with an underlying subretinal neovascular membrane and a macular hole (Figure 1), the presence of which were confirmed on fundus fluorescein angiography (Figure 2), indocyanine green angiography, and ocular coherence tomography (Figure 3). In view of limited visual benefit from laser treatment, the position and size of the subretinal neovascular complex, no treatment has been planned.

Figure 1 Colour fundus photograph demonstrating the macroaneurysm (a), choroidal neovascular complex (b), and a macular hole (c).

Figure 2 Fundus fluorescein angiography confirming the presence of a choroidal neovascular complex.

Figure 3 Ocular coherence tomography confirming a full-thickness macular hole.

Discussion

Retinal artery macroaneurysm is a localized dilation of a retinal arteriole, which usually occurs in the first three orders of the arterial tree.¹ Usually seen in elderly hypertensive women, it presents with retinal haemorrhages, retinal oedema, hard exudates,² vitreous haemorrhage,² retinal vein occlusion,³ and occasionally a macular hole.^{4,5} Chronic oedema secondary to rupture of the macroaneurysm appears to be the underlying mechanism for development of the hole. Although spontaneous thrombosis is known, laser photocoagulation is aimed at preventing any visual loss resulting from macular oedema and exudation.¹

Choroidal neovascularization has been reported following treatment of a retinal macroaneurysm.^{6,7} Damage to Bruch's membrane secondary to intensive laser therapy leads to formation of this neovascular

complex.⁶ The patient in discussion developed a choroidal neovascularization in association with a macroaneurysm without any laser treatment. It can be postulated that an extensive subretinal haemorrhage as seen in this case led to a disruption in the retinal pigment epithelial and possibly Bruch's membrane and a resultant neovascular complex. Chronic macular oedema secondary to leakage from the aneurysm led to formation of the macular hole.

This combination of an untreated retinal macroaneurysm with a subretinal neovascular complex and a macular hole is a very rare occurrence and to best of our knowledge has not been described before.

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