suggested by Dr Aristodemou, it may be the subject of a future study.

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Proprietary interest: none

Eye (2009) **23,** 1241–1242; doi:10.1038/eye.2008.181; published online 13 June 2008

Sir,

Optical coherence tomography in retinal cavernous haemangioma may explain the mechanism of vitreous haemorrhage

Cavernous haemangioma is a rare cause of vitreous haemorrhage. Optical coherence tomography (OCT) helps explain the mechanism.

Case report

An asymptomatic 12-year-old girl with no relevant ophthalmic, medical, or drug history was referred with a lesion in the retina of the right eye. Best-corrected visual acuities were 6/6 OD, 6/5 OS. Anterior segment examination was unremarkable. There was a cluster of discrete dark red vascular saccules with an overlying grey–white epiretinal membrane in the right nasal retina, consistent with a retinal cavernous haemangioma.

Fluorescein angiography demonstrated slow flow through the saccules. Areas of masking within the saccules were due to thrombosis and hyperfluorescent areas within the saccule were due to pooling of fluorescein. Typical fluid levels (see arrow, Figure 1) within the saccules were seen where thrombus and fluid were present.

OCT elegantly images the lesion in cross section (Figure 2) and may explain why spontaneous vitreous haemorrhage can occur in the absence of a vitreous detachment. An overlying epiretinal membrane is imaged as a continuous hyper-reflective signal attached to the saccules and forming bridges between them (see arrow, Figure 2).

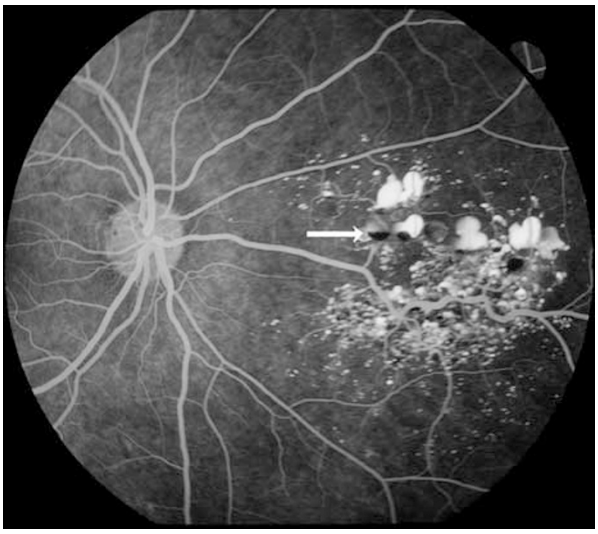

Figure 1 Venous phase of the fluorescein angiogram of the retinal cavernous haemangioma.

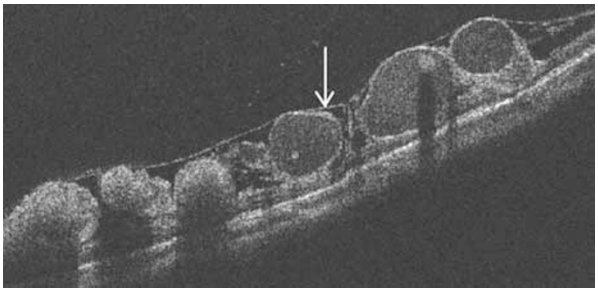

Figure 2 Optical coherence tomography of the retinal cavernous haemangioma.

Comment

Retinal cavernous haemangioma is a rare vascular malformation, it is often unilateral and may present either as an incidental finding or as a cause of vitreous haemorrhage. There may be associated cutaneous lesions and intracranial vascular malformations.[1] An autosomal dominant inheritance has been reported, but cases are usually sporadic.[2]

Histology of cavernous haemangiomas has been reported.[3] The ultrastructurally normal vessel wall maintains the blood retinal barrier, which explains the absence of fluorescein leak. The epiretinal membrane is formed by retinal glial cells, which proliferate on the inner retinal surface after gaining access through breaks in the internal limiting membrane.

Vitreous haemorrhage in retinal cavernous haemangioma is recognised in the absence of trauma and vitreous detachment. Histological studies suggested that these cases of vitreous haemorrhage may be due to epiretinal membrane contraction. The OCT identifies points of attachment to the saccule where a contracting epiretinal membrane could exert traction and cause vitreous haemorrhage.

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Eye (2009) **23,** 1242–1243; doi:10.1038/eye.2008.156; published online 6 June 2008

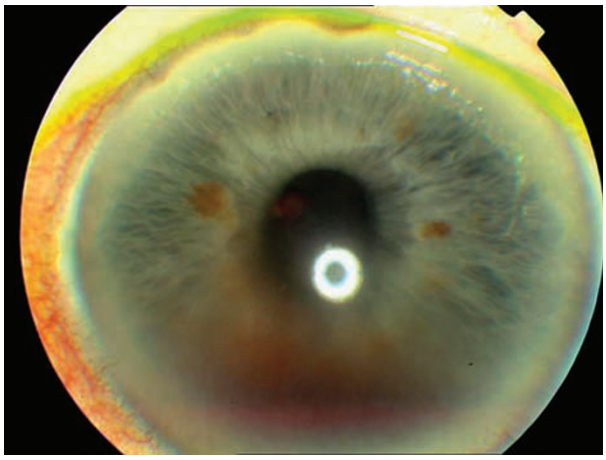

Figure 1 Anterior segment photo of right eye showing hyphaema.

Sir,

Spontaneous hyphaema following Valsalva-like manoeuvre

Valsalva manoeuvre can lead to various ocular manifestations. We report a case who presented with spontaneous hyphaema.

Case report

A 32-year-old woman presented to the casualty with a history of sudden onset clouding of vision. Just before this, she had taken a deep inhalation of salbutamol and held her breath as she rushed to a meeting. Examination revealed vision of 6/9 OD and 6/6 OS, hyphaema (Figure 1) and bleeding from pupillary margin in the right eye. The IOP was 30 mmHg OD and 16 mmHg OS, and the fundi were normal. Her full blood count, electrolytes, liver function tests, and clotting profile were normal. The hyphaema and the ocular hypertension resolved with a short course of g.cyclopentolate 1% tds and g.dorzolamide 2% tds. Thorough examination did not reveal any rubeosis, iris tufts, or neovascularisation of the angle. The patient refused a fluorescein angiogram of the iris after discussion of the risks and benefits.

Comment

Spontaneous hyphaema is known to occur in the presence of vascular iris tufts, rubeosis, chronic uveitis, uveal melanomas, retinoblastoma, juvenile xanthogranuloma, leukaemia, and immune thrombocytopenia.[1] In our patient, no other ocular pathology was seen and her blood test results were normal. Iris fluorescein angiography would have shown any occult vascular tufts but she refused this investigation.

The Valsalva manoeuver comprises a forcible exhalation against a closed glottis, causing a sudden increase in the abdominal and intrathoracic pressures, elevating the venous pressure of the head and neck, which in turn can cause a rapid rise in intraocular venous pressure. A Valsalva manoeuvre can cause reduced vision from retinal haemorrhages, with a predilection for preretinal macular location, retinal vein occlusion,[2] ciliochoroidal detachments,[3] bleeding in the sheaths of the optic nerve,[4] and angle closure glaucoma.[5] Our patient's action of deep inhalation and breath holding and rushing amounts to Valsalva maneuvre. In the absence of any copathology, the temporal association makes Valsalva manoeuvre the most likely cause of hyphaema in this patient. To our knowledge, Valsalva-associated hyphaema has not been reported before.

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Eye (2009) **23,** 1243; doi:10.1038/eye.2008.150; published online 6 June 2008