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Sir,

Ciliary body arteriovenous malformation?

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High-frequency ultrasound biomicroscopy (UBM) has been proven useful in the diagnosis and management of anterior segment pathology.[1,2] A case of probable arteriovenous malformation (AVM) of the ciliary body that was imaged with UBM is described.

Case report

A 33-year-old male presented with abnormal redness in the left eye associated with symptoms of itch and discomfort for 5 years. He was most disturbed by the cosmetic appearance of persistent dilated vessels (Figure 1). There was no history of orbital trauma or family history of vascular disorders. Visual acuity (VA) unaided was 20/20 in both eyes. Eye position was neutral with no proptosis. Pupils were isocoric and round, with full extraocular movements. Slit-lamp examination revealed dilated tortuous conjunctival and episcleral vessels in the nasal aspect of the left eye. Intraocular pressures were normal. There was no abnormal iris pigmentation or mass. Fundus examination showed normal retinal vessels. A provisional diagnosis of AVM over the left nasal conjunctiva was made and was initially managed expectantly.

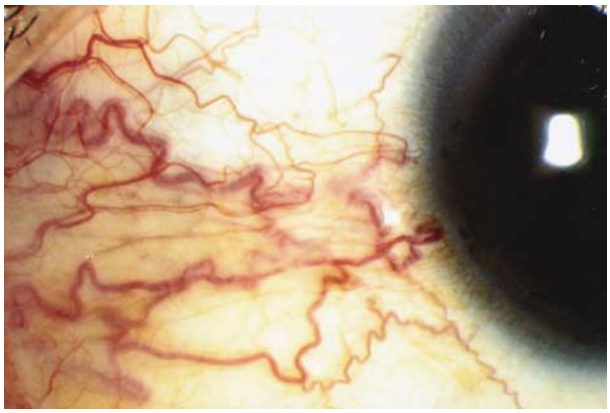

Figure 1 Nasal aspect of left eye.

UBM revealed hypoechoic 'sheets' and tubular structures (Figure 2, arrows) in the ciliary body corresponding to the position of the overlying dilated conjunctival and episcleral vessels and with possible communications between the deep and superficial portions. These hypoechoic areas were shown to communicate. The iris configuration was normal. There was no ciliary body mass or swelling and the ciliary body processes appeared normal. The patient elected for surgical excision for cosmesis, and this was performed. At the time of surgery, the dilated, tortuous vessels were cauterised and excised without difficulty and a free conjunctival autograft was obtained from the superotemporal bulbar conjunctiva and sutured over the nasal defect. The eye was treated with topical antibiotics and steroids postoperatively.

VA was unchanged postoperatively. The patient was happy with the cosmetic result and no recurrence of dilated vessels occurred. UBM repeated 2 weeks postoperatively showed no change in the extent or configuration of the ciliary body hypoechoic areas and no ciliary body swelling or mass.

Comment

An AVM is a dysplastic vascular lesion with the normal capillary bed being replaced by a network of abnormally connected arterial and venous channels. It is a congenital lesion that develops during the late somite stage in the fourth week of embryonic life.[3] Isolated intraorbital AVMs have been described and they usually present with symptoms and signs of proptosis, restricted extraocular movements, limbal chemosis, headache and secondary glaucoma, and dilatation of the veins of the retina, conjunctiva and eyelids. Intraocular AVMs of the anterior segment are rare. They have been described in the iris[4,5] but no reports exist of such vascular abnormalities of ciliary body. Intraocular tumour is an

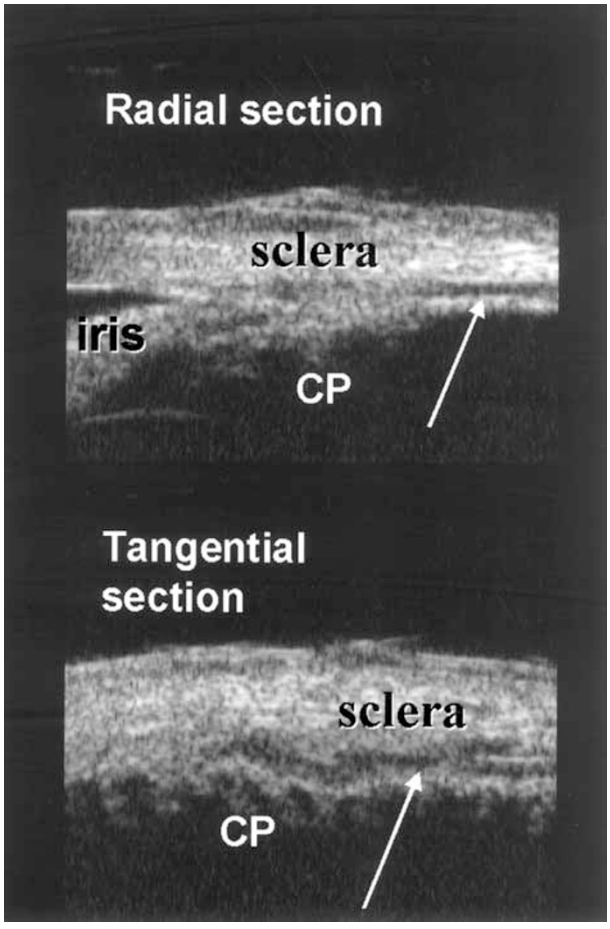

Figure 2 UBM images of the underlying ciliary body. CP, ciliary processes.

important differential diagnosis in patients who present with dilated limbal vessels. Malignant ciliary body tumours may present with engorged episcleral sentinel vessels.[5] Such a differential was less likely in our patient as tumours tend to occur in older patients,[6] and other signs suggestive of tumour were not present. A dilatation of abnormal blood-filled lymphatic vessels was an alternative possible diagnosis, but unfortunately histopathology was not available to exclude this.

High-resolution imaging of the anterior segment can be employed to examine retro-irideal structures. UBM of ciliary body tumours have been well described.[6,7] Pathognomic features such as a medium to hyperechoic mass within the ciliary body and internal reflectivity were not seen in our patient's UBM images. There were however hypoechoic communicating tubes and sheets (Figure 2, arrows) located within the nasal ciliary body and extending posteriorly into the pars plana. These images are consistent with an abnormal vascular architecture.[7] The appearances are quite distinct from both supra-choroidal fluid collections, which lies more superficially and extensively, and the commonly described ciliary body and iris cysts, which are well circumscribed near-spherical lesions.

We believe that these UBM appearances represent a unique finding, previously undescribed, which may represent a ciliary body vascular malformation.

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