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Sir,

Pars plana vitrectomy for traumatic cyclodialysis with persistent hypotony

Cyclodialysis is a disinsertion of the ciliary body from the scleral spur. It may occur accidentally by trauma, iatrogenically during intraocular surgery, or deliberately as a planned procedure for the treatment of glaucoma. Cyclodialysis clefts may result in hypotony, shallow anterior chamber, hypotony maculopathy, and possibly loss of vision. Different treatment modalities have been reported to repair traumatic cyclodialysis.

We describe a patient with traumatic cyclodialysis that was treated successfully with pars plana vitrectomy, gas tamponade, and cyclopexy with trans-scleral diathermy following the unsuccessful use of trans-scleral ciliary body sutures. Ultrasound biomicroscopy (UBM) proved helpful to identify precisely the location and extent of the cyclodialysis cleft and to observe the regression of the ciliochoroidal space postoperatively with the closure of the clefts.

Case report

A 27-year-old man was referred to us for decreased vision with persistent hypotony in the right eye (RE) after colliding with motorboat while jet skiing 3 months earlier. The patient had undergone reconstructive surgery for maxillofacial fractures. On examination, best-corrected visual acuity was 20/200 RE and 20/10 left eye (LE) The intraocular pressure (IOP) was 2 mmHg RE and 14 mmHg LE. The anterior chamber was shallow, and a cyclodialysis cleft was found superotemporally. Ophthalmoscopy revealed swollen optic disc and oedema of the retina with macular folds. The LE was unremarkable. The axial length was 19.21 mm in the RE and 23.39 mm in the LE.

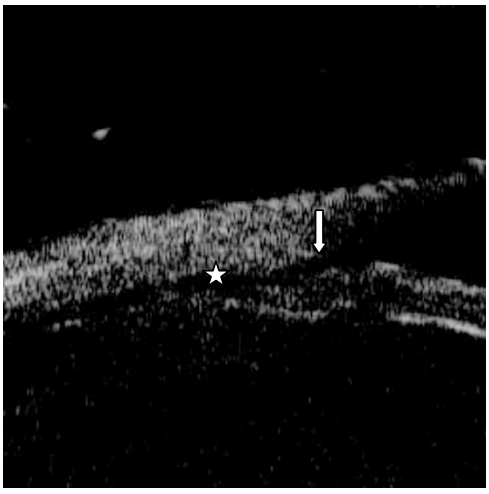

Figure 1 Nasal cyclodialysis cleft (arrow) is found behind closed angle and supraciliary fluid (asterisk). Imaging was limited because of patient discomfort.

We performed a surgical cyclopexy by directly suturing the ciliary body to the scleral spur in the superotemporal quadrant, according to the technique reported by Küchle and Naumann.[1] Following this treatment, no initial improvement was observed the IOP in the RE remained 2 mmHg. A posterior subcapsular cataract subsequently developed, and visual acuity decreased to 20/400. UBM (Humphrey UBM840, Humphrey Instruments, San Leandro, Ca, USA) examination of the ciliary body disclosed another cyclodialysis cleft nasally (Figure 1), that opened toward the anterior chamber and 360° of ciliochoroidal fluid.

At 2 months after the initial operation, we performed phacoemulsification of the lens, intraocular lens implantation, three-port pars plana vitrectomy, peeling of the posterior hyaloid membrane and fluid–gas exchange with 20% SF_6. At the end of the surgery, trans-scleral diathermy was applied posterior to the sites of the cyclodialysis clefts to anchor the ciliary body to the sclera firmly.

On the next day, the IOP showed a transient rise to 33 mmHg. The IOP decreased to normal range after the second postoperative day, and the ciliochoroidal detachment regressed. At 1 year after surgery, the best-corrected visual acuity improved to 20/20, and the IOP was 17 mmHg. UBM revealed closure of the nasal cyclodialysis cleft (Figure 2). The axial length of the right eye was elongated to 21.94 mm. Optic disc oedema and macular oedema had completely resolved.

Discussion

UBM provides high-resolution images of the anterior ocular segment and enables examinations focused on

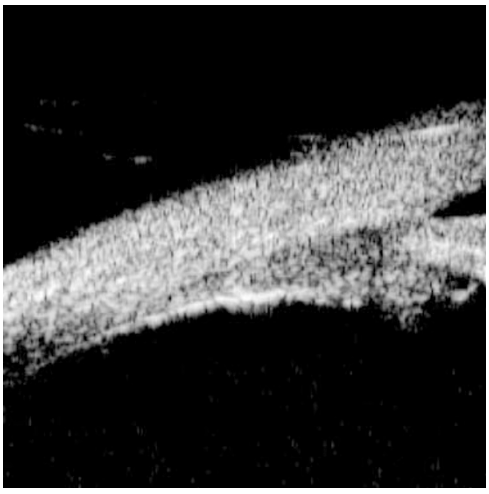

Figure 2 Closure of nasal cyclodialysis cleft is observed.

ciliary body abnormalities, especially in the diagnosis of post-traumatic and postoperative persistent hypotony. [2–4] Roters *et al*[5] have reported that UBM revealed ciliary body abnormalities in 80% of eyes with chronic ocular hypotony in which the underlying pathologic mechanism remained unclear. UBM provides further information to clinical examination, as in the present case, in which an additional cyclodialysis cleft undetected during gonioscopy was disclosed by UBM after unsuccessful direct surgical cyclopexy.

Surgical treatment options for cyclodialysis cleft include laser photocoagulation,[6,7] cyclodiathermy,[8] cyclocryopexy,[9] and direct ciliary body suturing.[1] Küchle and Naumann[1] have reported successful surgical outcome with the direct suture technique in 29 consecutive cases. However, their approach has a disadvantage for larger or multiple clefts, because extended scleral lamellae have to be dissected, which could impair the blood supply by the anterior ciliary artery.[10]

It has been reported that long-standing traumatic hypotonous cyclodialysis had been successfully treated by pars plana vitrectomy with gas tamponade and cryotherapy.[10,11] In this technique, the intraocular gas bubble can be used as an internal tamponade for the detached ciliary body against the sclera.[10,11] Similarly in the present case, we performed pars plana vitrectomy, gas tamponade, and cyclopexy with trans-scleral diathermy as the second operation, to prevent further impairment of the anterior vascular supply. The pars plana approach is also optimal in managing coexisting intraocular problems, such as cataract, lens dislocation, and posterior segment conditions that are frequently present in traumatized eyes.

The application of UBM helps to identify precisely the location and extent of the cyclodialysis cleft,[12] thereby providing a guide for surgical management in eyes with traumatic persistent hypotony.

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Sir,

Mifepristone treatment in patients with surgically incurable sphenoid-ridge meningioma: a long-term follow-up

Sphenoid-ridge meningiomas are slow-growing benign tumours that may reach massive proportions, invading bone and/or encasing major blood vessels. Although the importance of surgery is well established, meningiomas often recur after incomplete resection, 'subtotal' or even 'total' extirpation. After subtotal resection, most frequently used in sphenoid-ridge meningioma surgery, 69% of patients are still recurrence-free, with the probability of recurrence as high as 91% after 15 years.[1,2] After a second resection; the probability that more surgery will be needed is 56% after 10 years. Although the survival rate is high after 15 years, there is a serious threat that, after one or more operations, the patient will become functionally disabled by impaired vision, even blindness, and suffer motor deficits having cosmetic and social implications.[2]

Therefore, other therapies such as gamma-knife and stereotactic radiotherapy have been developed,[3] although conventional radiosurgery remains beneficial. Recurrence and cerebral and/or visual radio-complications are frequently found at 10-year follow-up.[1] Hormone treatment is possible because most meningiomas contain progesterone-specific receptors.[4,5] Epidemiological data (preponderance in women, tumour growth during pregnancy, coexistence with breast cancer) suggests that progesterone receptors may play a role. Therefore, investigating how progesterone antagonists' function may prove advantageous. The progesterone-receptor antagonist Mifepristone (MIF; 17-β-hydroxy-β(4-dimenthyl-aminophenyl)-17α-(1-propynyl)estra-4,9-dien-one) binds to and blocks both this as well as cortisol receptors in meningiomas.

Several pilot studies suggest that progression of sphenoid-ridge meningiomas can be halted using progesterone-receptor antagonists.[4,6,7] In most cases, tumour growth and visual functions could be stabilized. Slight improvements in visual function, motility disturbances, and orbital symptoms were occasionally observed, as in the prospective study with 1-year follow-up[6] (see Table 1) in Rotterdam[4] and Leiden including 10 patients (five from Rotterdam, two from Leiden) with

Table 1 Unresectable meningiomas in two women treated with MIF

	Patient 1	*Patient 2*
Age (years) starting MIF	51	53
Diagnosis	Borderline vasc. meningioma	Meningo-theliomatous
Location	Sphenoid, cavernous sinus	Skull base, chiasm, Iin
Neurosurgery	1985 and 1987	1980 and 1987
MIF protocol study	1988–1989	1988–1989
Open study	1990–2003	1990–2003
Dosage MIF (mg)	200–400	200–400
Dosage DEX (mg)	1.5	1.5
Positive receptor progesterone	+	+
Amenorrhoa?	Yes	Yes
Total follow-up (years)	14	14
VA (RE/LE)	LE 1 year: FC 1 month	—
Before MIF	1.0, 0	0.1, 0
After MIF	1.0, 0	0.3, 0
VF		
Before MIF	Small defect nasal	Small central island
During MIF	Conform	Conform
Oculomotor disturbances	CS syndrome/>	—
Before	IIIn paresis	—
After	Improved	
Tumor growth During MIF	None	None
Complications	None	Uterus extirpation after 5 years