Secondly, Yeun *et al* ask for information on the possible reasons for the time difference between endosurgical and endolaser DCR with regard to preparation and passing tubes. In the study, the differences between these two small groups, both for preparation time and for passing tubes, were statistically insignificant. The apparent difference in preparation time may have reflected a choice of practice at the time, whereby aqueous povidine iodine was not applied to the skin for endolaser cases. Since the study, we have changed our practice and no longer use povidine iodine for endosurgical cases either.

Thirdly, the case mix for the endosurgical and endolaser groups was similar. No patient had a narrow nasal space requiring septoplasty. In addition, the tubes were knotted within the nose and the position of the knot in relation to the ostium was checked endoscopically at the end of surgery to ensure that they were not too loose and at risk of prolapse.[3]

Lastly, we agree with Yeun *et al* that granulation tissue formation may affect surgical success in DCR. During the follow-up period, all patients received a postoperative endoscopic endonasal examination by the senior author (JMO) 1 week after surgery, and then at the time of removal of tubes, which was usually 8 weeks postoperative. Although data were not prospectively recorded with regard to debris and granulation tissue removal, each group had a similar postoperative regimen. We do not give additional visits to endonasal DCR patients for debris removal.

We would once again like to thank Yeun *et al* for reading our paper so thoroughly and for raising valid questions and agree that they help promote discussion and ultimately better understanding of the issues surrounding the various approaches to DCR.

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Sir,

Unilateral lid retraction due to orbital fat entrapment in the anterior cranial fossa

We present a case of unilateral lid retraction secondary to orbital fat entrapment in the orbital roof of a patient with chronic hydrocephalus.

Case Report

A 39-year-old female patient was referred with a 5-year history of progressive left upper eyelid retraction, complaining of impaired cosmesis. She had congenital hydrocephalus due to a pineal mass, which had only been diagnosed at the age of 18 years. She had undergone a ventriculoperitoneal shunt at the age of 21 years to treat raised intracranial pressure manifesting as headaches and loss of balance. The shunt relieved her problems and she was asymptomatic until she noticed the left upper eyelid retraction.

Unaided visual acuity was 6/6 bilaterally. Hertel exophthalmometry readings were 15 mm on the right and 12 mm on the left. The right palpebral aperture was 10 mm and the left 16 mm. The marginal reflex distance on the right side was 4 mm in the primary position and in the downgaze, but on the left side, it was 10 mm in the primary position and 16 mm in the downgaze (Figure 1a and b). Her levator function was 15 mm on the right but only 5 mm on the left. She had a fair Bell's phenomenon bilaterally but 2 mm of lagophthalmos on the left. Intraocular pressures were normal. The left cornea showed inferior punctate fluorescein staining.

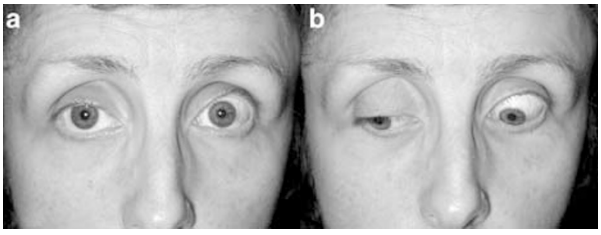

Figure 1 Left lid retraction (a) in straight ahead gaze and (b) increasing in the downgaze.

Fundoscopy revealed large discs with anomalously branching blood vessels. Apart from asymptomatic bilateral superior oblique underaction, no ocular motility abnormalities were noted. No features of dorsal midbrain syndrome were present.

An MRI scan confirmed a pineal mass. CT and MRI of the orbit showed a left orbital roof defect with tissue protruding from her left orbit into her anterior cranial fossa. This appeared to represent an upward herniation of intraorbital contents (Figures 2a and b).

She underwent corrective surgery through an upper lid skin crease incision in conjunction with a neurosurgery team. During surgery, a defect in the orbital roof with upward herniation of orbital fat was revealed. There was very little fat in the orbit. The levator was uninvolved. The herniated fat was dissected from the surrounding tissue to reveal the entire bone defect. A disc of Medpor sheeting was placed over the defect and glued using the Tisseal glue (Figure 2c and d). An abdominal dermis fat graft was placed over the Medpor with the fat filling the preaponeurotic space.
She developed a ptosis in the immediate postoperative period (Figure 3), but her levator function subsequently improved to 12 mm on the left side and she achieved an excellent cosmetic result with a left palpebral aperture of 9 mm and a marginal reflex distance of 3.5 mm in the primary gaze and 4 mm in the downgaze.

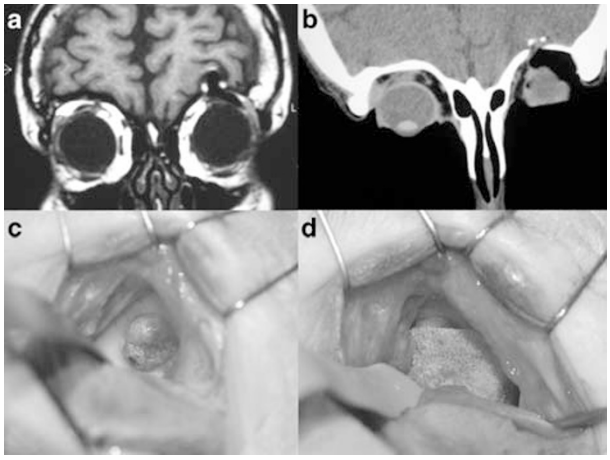

Figure 2 (a) T2-weighted coronal MRI scan showing herniation of intraorbital tissue into anterior cranial fossa. (b) CT scan revealing breach in orbital roof. (c) Intraoperative picture showing bony defect in its entirety. (d) Intraoperative picture showing Medpor placed over bony defect.

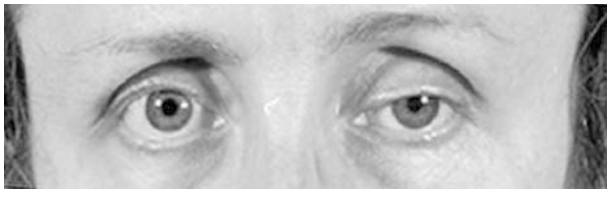

Figure 3 Immediate postoperative appearance.

Comment

Pretectal compression by pineal tumours produces Parinaud's syndrome, which comprises lid retraction, light-near pupillary dissociation, upgaze palsy, convergence retraction nystagmus, and convergence paralysis. Not all pineal tumours, however, necessarily give rise to this syndrome. Eyelid retraction in these cases is a manifestation of levator-superior rectus synkinesis in which, due to upgaze limitation, excess superior rectus innervation is matched by levator activity, resulting in disproportionate eyelid retraction. This is always symmetric and disappears on downgaze.[1] Although Parinaud's syndrome was considered as a possible aetiology in this case, the unilaterality and absence of associated features made it unlikely.

Raised intracranial pressure (ICP) secondary to chronic hydrocephalus produces significant thinning and erosion in the cranial bones.[2,3] Several reports have described pneumocephalus following ventriculoperitoneal (VP) shunts due to air ingress through the bony defect.[2–7] Of 37 pneumocephalus cases quoted in one report, the fistula was located at the anterior fossa skull base in 125. Large negative ICPs can develop by the siphoning phenomenon in shunted patients, with pressures as low as -440 mm H_2O at the foramen of Monro. This drop in ICP following surgery allows intracranial air entry.[6,7] In Graves' ophthalmopathy, increased volume of extraocular muscles and fat causes elevated intraorbital pressure,[8] but in the absence of such an intraorbital pressure rise, upward herniation of intraorbital contents is difficult to explain. One report describes a blowout fracture of the superior orbital roof with herniation of intraorbital fat into the anterior cranial fossa.[9]

In this case, we postulate that long-standing hydrocephalus caused further thinning of the normally thin orbital plate of the frontal bone resulting in a bony defect. Chronic siphoning of CSF via the shunt promoted intracranial hypotension resulting in a higher intraorbital pressure than ICP and an upward herniation of intraorbital fat. Owing to the close anatomical relationship between the levator and preaponeurotic fat,[10] this fat entrapment resulted in a tethering of the upper lid and lid retraction increasing on the down gaze. Relieving this entrapment and repairing the defect

provided the solution to this unusual problem.

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Sir,

Sphenoid sinus mucocoele presenting with optic neuropathy and abducens palsy: a late complication of radiotherapy to the head and neck

Sphenoid sinus mucocoeles are unusual lesions with few reported cases in the medical literature since Berg[1] first described them. Symptoms and signs are caused by local expansion of the mucocoele and include headache, visual disturbance, and ophthalmoplegia. Multiple theories have been proposed to describe the cause of the mucocoele;[2] however, an association between the mucocoele and radiotherapy has rarely been described.[3,4] We report the case history of a patient with sphenoid sinus mucocoele, which upon further investigation, was found to be associated with radiotherapy.

Case report

A 46-year-old Chinese male with history of nasopharyngeal carcinoma (NPC), treated by radiotherapy 7 years ago, was referred to our clinic complaining of progressive blurred vision and limited right gaze of 4 months duration in the right eye (OD). Further history revealed occasional epistaxis and headache. Clinical examination revealed a visual acuity of 20/60 OD and 20/20 on the left side (OS). Extraocular muscle examination revealed moderate right abduction deficit. Biomicroscopic examination revealed bilateral normal fundi, but an inferior altitudinal visual field defect was noted OD. Dyschromatopsia with Ishihara plates and a relative afferent pupillary defect were also found OD. In consideration of the past history of NPC, and the findings of an abducens palsy, a local recurrence had to be excluded. Further imaging study with a contrast computed tomography (CT) scan revealed an expanded homogenous nonenhancing hypodense lesion in the sphenoid sinus with erosion of the right posterior medial orbital wall and compression of the right optic nerve (Figure 1a, b), leading to the suspicion of a sphenoid tumour mass. There was no abnormality noted in the nasopharynx on the CT scan.

To confirm the diagnosis and rule out any possible tumour recurrence as well as to relieve the compressive effect of the tumour mass, drainage and biopsy of the sphenoid sinus through an endoscopic transnasal approach was performed. Biopsy of the mucosal lining revealed no tumour cells. No infection was demonstrated in the mucocoele. Immediate improvement of vision was noted 3 days postoperatively as the patient felt that 'everything becomes brighter.' Complete return of vision to 20/20 OD and normalization of the visual field OD were noted 2 weeks later. Ophthalmoplegia also