the border of unaffected tissue.⁴ This results in a relatively steep contour approximately 90° away.^{4,5} The topographic pattern described is distinctly different from that seen in keratoconus, in which a small area of high corneal power is surrounded by concentric bands of low corneal power.⁶

These characteristic features help to differentiate this condition from other noninflammatory corneal thinning disorders such as keratoconus, posterior keratoconus, and keratoglobus. It also needs to be differentiated from peripheral corneal disorders associated with inflammation such as Terrien's marginal degeneration, Mooren's ulceration, and ulcers associated with connective tissue disorders.

The case reported highlights the rare occurrence of unilateral PMD. Though bilateral conditions do present asymmetrically in degree or time period, the left eye in this case has not shown any sign of the disease 11 years after the right eye started becoming symptomatic. Two cases of unilateral isolated PMD have been reported so far by Wagenhorst⁷ and Basak *et al.*⁸ The first was in an elderly black patient, while the second was an Indian patient similar to the case described. Another series by Biswas *et al.*⁹ describes 16 patients with pellucid marginal degeneration, of which it was unilateral in three patients.

To the best of our knowledge, this is the sixth such patient reported so far. Peripheral corneal thinning disorders are a group of distinct entities with differing implications for management. They need to be recognised and differentiated from each other. Topographical analysis is an invaluable tool that may help confirm a clinical suspicion.

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Sir,

Miragel explant fragmentation 10 years after scleral buckling surgery

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Long-term complications are known to be associated with hydrogel explants.^{1–4} We would like to present a patient with severely restricted eye movements 10 years following the use of Miragel explant (from MIRA, 87 Rumford Avenue, Waltham, MA 02454, USA).

Case report

A 66-year-old man had two scleral buckling surgeries for a right rhegmatogenous retinal detachment 10 years previously. He was referred for increasing binocular diplopia over the past 12 months.

On examination, his visual acuity was 6/18 OD and 6/12 OS. There was a large swelling over the superotemporal aspect of the right globe. On palpation, it was not possible to reach the posterior extent of this swelling. The eye was hypotropic and esotropic, and the extraocular movements were limited in all directions, especially abduction and elevation. Orthoptic assessment showed the deviation to be 8Δ esotropia, 4Δ L/R and 20Δ of excyclotorsion (see Lee's Chart, Figure 1a).

A provisional diagnosis of mechanical restriction was made, and we decided to explore and remove the surgical explant in the first instance.

At surgery, forced duction tests confirmed the diagnosis of mechanical restriction. It was found that the explant was covered by a thick fibrous capsule, and when the explant was exposed, it had a straw-colour, opalescent and gel-like appearance. It was not possible to purchase the explant with forceps as the material was extremely friable and tended to disintegrate. Eventually, we found that the best way to remove the surgical

Figure 1 (a) Preop Lee's chart showing severely restricted extraocular movements. (b) Postop Lee's chart showing marked improvement in movements.

explant was to do so in a piece-meal fashion using a curette (see Figure 2). After the explant was removed, further excision and dissection of the fibrous tissue were carried out until the forced duction test gave satisfactory eye movements in all directions.

Two months postoperatively, the extraocular movements were almost full, and repeated orthoptic assessment showed that the excyclotorsion was reduced to 8 prism dioptres with minimal exotropia and hypotropia. The patient was then able to fuse images with the help of a Fresnel prism to correct the exotropia (see Lee's chart, Figure 1b).

Hydrogel explants were first introduced in 1979, but were later withdrawn in the 1990s. The initial enthusiasm

for the use of this type of explant was for the following reasons:^{5,6} (1) The explants were soft and elastic and considered less likely to erode through the conjunctiva. (2) The explant did not contain any dead space, and this was thought to be important in minimising the risk of infection. (3) The explants could absorb and release antibiotics slowly. (4) The swelling from hydration could increase buckle height in the immediate postoperative period.

Miragel explants were subsequently withdrawn because of late complications.¹⁻⁴ These include erosion into the globe, extrusion of the explants and progressive diplopia. The material had been shown to be structurally unstable and this led to excessive water absorption,

Figure 2 Fragmentation of Miragel explant.

swelling and disintegration.¹ This process must be a very slow one, as typically many of these complications only appear 7–10 years after the initial scleral buckle operation.^{1–4}

Comment

Using scissors and forceps in the conventional manner, the removal of Miragel may be difficult, as the explants disintegrate when grasped by instruments. In our patient, the explant was associated with massive periocular fibrosis and extensive dissection was required to free the globe from its mechanical restriction. Our case illustrated that the symptoms can be slowly progressive and that some complications tended to be delayed for many years. We may only be starting to see a number of these cases in this country, even though the explants were withdrawn some years ago. Where Miragel explants had been used extensively in the past, eye units should be aware of the possibility of late complications.

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Sir,

Acute visual loss as an early manifestation of metastatic neuroblastoma

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Neuroblastoma is the most common extracranial solid tumour among paediatric patients. Visual loss is uncommon as an early clinical feature of metastatic neuroblastoma. We report a case of metastatic neuroblastoma and discuss the possible aetiology of visual loss.

Case report

A 2½-year-old boy with a 3-week history of general malaise, irritability, and anorexia was suspected to have encephalopathy. When he failed to improve on medical therapy, he was referred to the regional paediatric neurology unit. Initial investigations carried out at his local hospital, including CT scan and EEG, were reported to be normal. On admission, he was lethargic, irritable but apyrexial, and there were no focal neurological signs. After 2 days, concerns were raised regarding the child's vision and he was referred for an ophthalmic opinion. Ophthalmic examination was difficult due to the child's irritability. He appeared to have profound visual loss to a level of hand movements or worse in both eyes. The left pupil was dilated and poorly reactive, but the right pupil was normal. The discs appeared normal and the ocular movements were full. Visual evoked potentials showed absent responses with normal electroretinograms. Repeat neuroimaging studies demonstrated a large mass in the sphenoid region compressing both optic nerves at the orbital apices (Figure 1). The first clue of neuroblastoma emerged on urinary screening for organic and amino acids. Elevated urinary catecholamine metabolites were found (vanillyl mandelic acid), which was confirmed on repeat samples. After 2 days the right pupil had become involved. He was treated with high-dose intravenous