for both groups. MM eyes had significantly greater corneal densitometry values than control eyes in the anterior ($P < 0.001$) and central ($P < 0.001$) layers within a 6-mm diameter of the cornea. There was no significant difference in the posterior corneal layer between both groups.

To our knowledge, this is the first report of quantified corneal densitometry in MM. A recent study using IVC³ reported that MM patients without clinically evident corneal involvement show hyperreflective deposits in the epithelium and stroma as well as corneal structural changes, similar to observations in MM patients with clinically apparent corneal deposits.^{4,5} Our results also demonstrate increased corneal densitometry in MM patients who were deemed to be clear by slit-lamp examination.

Crystals are thought to form due to the deposition of immunoglobulin light chain proteins and may diffuse from the tear film or aqueous fluid,³ although the mechanism by which serum proteins in MM patients reach the cornea remains unclear. In the MM population of our study without clinically evident corneal involvement, increased corneal densitometry values were found in the anterior and central cornea. We presume that either of these may be the initial site of corneal immunoprotein deposition in MM patients, suggesting that serum proteins may diffuse from the tear film (anterior part) rather than from the aqueous fluid (posterior part). Future studies with a greater number of patients, varying degrees of corneal involvement, and comparative IVC³ images may better our understanding of this pathophysiology.

In conclusion, corneal densitometry has the potential to non-invasively detect subclinical corneal alterations associated with MM and to further develop our understanding of MM-associated corneal deposits.

Conflict of interest

The authors declare no conflict of interest.

Author contributions

All authors contributed to patient management and to the writing of the report. All authors approve of the final version of this manuscript.

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Sir, A comparative study of adjustable and non-adjustable sutures in primary horizontal muscle surgery in children

We congratulate Kamal *et al*¹ on effecting a randomised controlled trial in paediatric strabismus, an area in which such evidence is lacking, but wish to raise some concerns about the techniques described.

The authors randomly allocate the cohort into two groups that cannot readily be compared. For example, the proportion of exotropes in the non-adjustable group is 40%, but only 23.3% in the adjustable group. Table 1 incorrectly states this percentage as 13.4%. There are no data on visual acuity, refraction or binocular status, which are important determinants of strabismus surgical outcomes. Describing motor outcomes in isolation may lead to erroneous conclusions. Patients with concurrent vertical and horizontal strabismus are included, but the vertical component ignored in analysis, which is not ideal as these patients have different responses to surgery.

The authors describe adjusting sutures 1–4 h post-operatively. This technique relies on orthoptic assessment of children recovering from general anaesthetic (GA) and who are kept fasted for further GA. Proponents of this technique have described feigning dropping a child, who may be understandably uncooperative, to cause reflex eye opening to enable a Krinsky test.² Examination in this setting is limited, as the authors themselves state, and may be insufficient in guiding adjustment. These children often remain under long-term follow-up. A negative experience at surgery may adversely affect their cooperation in future appointments.

Adjustment requires a second GA. Recent evidence has demonstrated the long-term neurocognitive safety of a single GA before the age of 36 months, but the effect of repeated GA on the developing brain remains unknown.³

We feel these factors are important and should be considered prior to embarking on the technique described to maximise good surgical outcomes.

Conflict of interest

The authors declare no conflict of interest.

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Sir, Survival analysis of visual improvement after cataract surgery in advanced retinitis pigmentosa

We conducted a survival analysis to investigate the duration of visual improvement following cataract surgery in patients with retinitis pigmentosa. Consecutive records of patients with retinitis pigmentosa who underwent phacoemulsification cataract extraction from January 2001 to December 2015 at Hong Kong Eye Hospital were reviewed. All patients were followed-up annually. The duration at which postoperative best-corrected visual acuity (BCVA) returned to preoperative values was traced. For cases with visual improvement maintained or lost to follow-up, the interval between the date of surgery and the date of the last visit was recorded.

Wilcoxon signed-rank test was used to compare the BCVA over time. Visual acuities of hand movement and light perception were assigned the equivalent of 1.7 and 1.8 logMAR units, respectively. Kaplan–Meier survival analysis was performed to evaluate the duration of visual improvement following cataract surgery. A *P*-value of <0.05 was considered statistically significant.

Sixty-seven eyes of 42 patients with retinitis pigmentosa had phacoemulsification and intraocular lens implanted during the study period. The average age of cataract extraction was 59.2 ± 12.3 years. Preoperative BCVA improved from 1.27 ± 0.42 to 0.92 ± 0.49 and 0.97 ± 0.53 at 3 months and 1 year postoperatively ($P < 0.001$). Final BCVA measured at a mean of follow-up duration of 6.9 ± 4.4 years was 1.18 ± 0.49 ($P = 0.095$, compared to preoperative BCVA)

Figure 1 Kaplan–Meier survival curve of visual improvement after cataract surgery in retinitis pigmentosa patients.

with 37 (55.2%) eyes returned to or worse than preoperative values.

Using survival analysis, the mean duration of visual improvement following cataract surgery was 8.10 ± 0.83 years (95% confidence interval, 6.47 to 9.72 years) (Figure 1). Preoperatively, visual field was $<10^\circ$ in 43 eyes (64.2%) and $\geq 10^\circ$ in 24 eyes (35.8%). There was no significant difference in the duration of visual improvement between the two groups (Log-rank test, $P = 0.345$). Premorbid ocular diseases were noted in 25 (37.3%) eyes. No significant difference was found in the duration of visual improvement between eyes with or without premorbid ocular diseases (Log-rank test, $P = 0.754$).

Similar to previous studies, our results showed a significant improvement in visual acuity after cataract surgery in patients with retinitis pigmentosa.^{1,2} Using the Humphrey Field Analyzer, Yoshida *et al*² reported that less advanced disease with mean deviation of ≥ -15 decibels in central 10–2 program had significant visual improvement postoperatively.² Dikopf *et al* reported limited postoperative visual gain in their patients with very low vision ($<20/400$). They speculated that this was due to the pre-existing retinal disease or maculopathy.¹ Assessment of macular microstructure using optical coherence tomography could help predict postoperative visual prognosis.^{2,3} The degenerative nature of the disease could lead to a drop in visual improvement over time.⁴

Patients in the current study had advanced disease as shown in their poor BCVA at postoperative 3 months. The cumulative incidence of patients with retinitis pigmentosa classified as low vision was 34 to 65% by the age of 60 years.⁵ Here we showed that these patients could achieve visual improvement