further source of bias. Each of the ocular risk factors seems to have a different degree of under-reporting and reporting bias. This will affect the estimates of relative and actual risk of PCR/VL for each of these ocular conditions.

Reference

1 Narendran N, Jaycock P, Johnston R, Taylor H, Adams M, Tole D *et al*. The Cataract National Dataset electronic multicentre audit of 55 567 operations: risk stratification for posterior capsule rupture and vitreous loss. *Eye* 2009; **23**(1): 31–37.

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Sir,

Responding letter

Response to the letter by Mr Depak Gupta,

I would like to thank Mr Gupta, Dr Hadinapola and Mr Eke for their interest in our paper and the contribution of their unit in providing data for the study.[1] They have highlighted in a small survey of some of the doctors in their own department that not all carefully record all risk factors. They have not measured the accuracy of the responses, and therefore no firm conclusions can be drawn as to the magnitude of bias caused. Many of the risk factors identified in our study (1) are independent of the diligence of data recording by the surgeon (patient age, male gender, axial length >26 mm, use of alpha blockers) as they are recorded by nurses during pre-assessment and biometry or are highly likely to be recorded accurately (grade of surgeon). This leaves the following factors potentially susceptible to bias in their, and probably other units: (presence of glaucoma, diabetic retinopathy, brunescent/white cataract, no fundal view/vitreous opacities, pseudoexfoliation and pupil size).

Accuracy of data is an issue in any study. As all data were anonymised before extraction it was not possible for us to evaluate the accuracy of the data. The Medisoft electronic patient record (EPR) system attempts to balance speed of data entry with completeness of data capture by using default settings for some fields, but by forcing data entry in important fields such as co-pathology and complications. Using EPR completeness of data capture can be guaranteed, but not accuracy. I am constantly looking for ways to design out potential sources of inaccurate data entry; for example, we may implement automatic selection of co-pathology options based on previously entered diagnoses, so that over time the accuracy of data entry in the EPR may improve. As EPR systems begin to entirely replace paper records, rather than just being used to audit specific care pathways, there will be increasing opportunities for cross-checking the accuracy of data entry.

Despite the potential for bias introduced by inaccurate data entry for some of the risk factors, it is gratifying that the authors recognise that the findings are 'broadly in line with our clinical experience'.

Conflict of interest

The author is the Medical Director of Medisoft Limited.

Reference

1 Narendran N, Jaycock P, Johnston RL, Taylor H, Adams M, Tole DM *et al*. The Cataract National Dataset electronic multicentre audit of 55 567 operations: risk stratification for posterior capsule rupture and vitreous loss. *Eye* 2009; **23**: 31–37.

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Sir,

Case of novel *PITX2* gene mutation associated with Peters' anomaly and persistent hyperplastic primary vitreous

The association of Peters' anomaly with persistent hyperplastic primary vitreous (PHPV) has been reported clinically and histopathologically,[1] but a genetic cause for the clinically uncommon complexation of these two malformations has not been reported.

A male child (3090 g) was born by normal gestation and delivery, and had no systemic abnormalities. His parents noted leukocoria in the right eye at the age of 7 days. Slit-lamp examination and ultrasound biomicroscopy showed central corneal opacity with anterior iris synechia, a shallow anterior chamber, lens subluxation, and elongated ciliary processes in the right eye (Figure 1a–c). Computed tomography showed right microphthalmos.

Pars plana lensectomy and anterior vitrectomy were performed in the right eye at the age of 7 months to manage the pupillary block. Endoscopic findings revealed a persistent hyaloid artery towards the fibrovascular tissue behind the lens (Figure 1d). On the basis of these findings, we diagnosed the child with Peters' anomaly-complicated PHPV.

After obtaining informed consent, molecular genetic analysis of the *PITX2* gene by direct sequencing of all the coding regions revealed a novel 649C$>$A mutation in the proband (Figure 2). This substitution

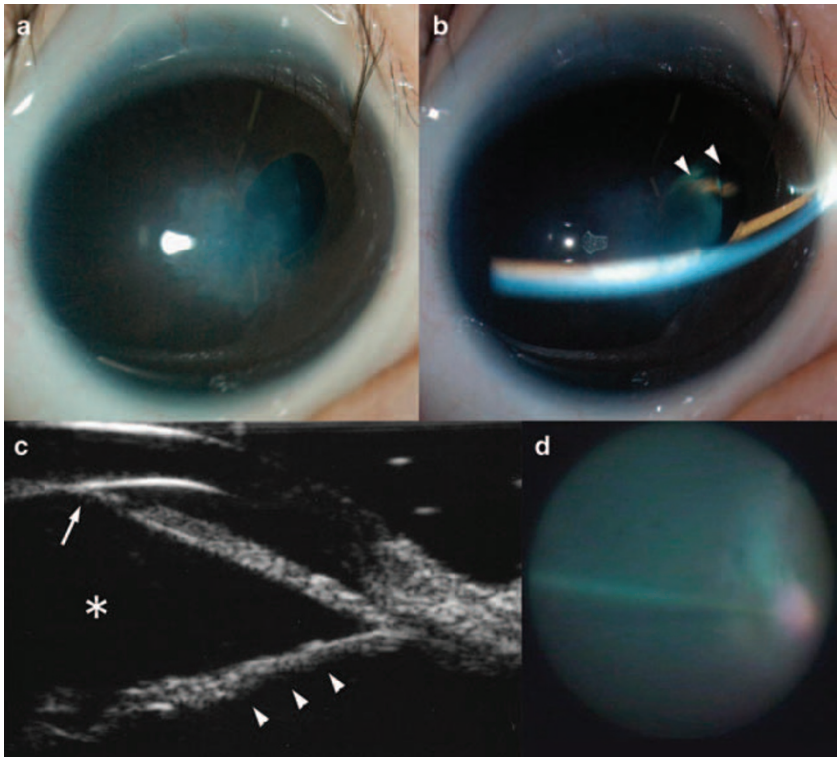
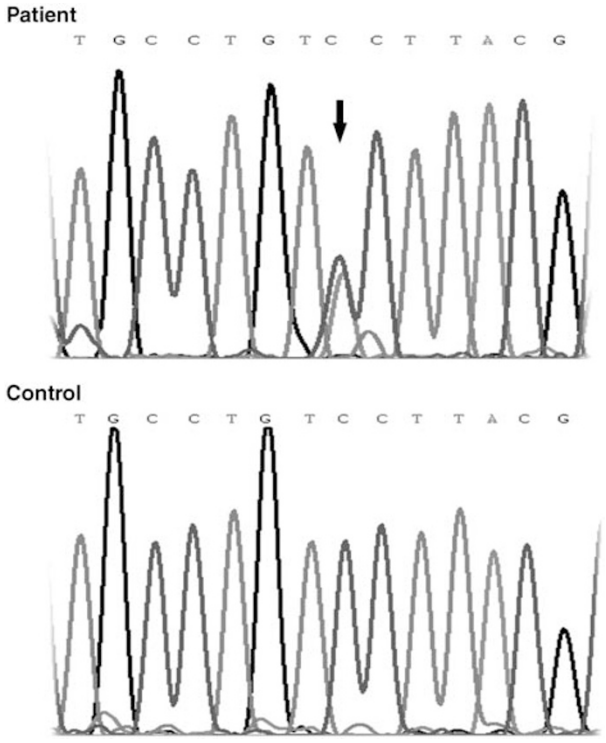


Figure 1 Slit-lamp, ultrasound biomicroscopy, and endoscopic findings of the right eye. (a and b) Slit-lamp photograph shows central corneal opacity with anterior iris synechia and lens subluxation. Zonule of Zinn is lacking and elongated ciliary processes (arrowheads) are observed nasally. (c) Ultrasound biomicroscopy (UBM) shows anterior iris synechia towards the central cornea (arrows), anterior displacement of the lens (asterisk) between the cornea and the elongated ciliary process (arrowheads), which was also observed by slit-lamp examination (b, arrowheads). (d) A persistent hyaloid artery is observed from the optic disc to the fibrovascular tissue behind the lens.



was not detected either in parents or in 72 healthy controls.

We postulate that the novel *PITX2* gene mutation leads to migratory disorders of neural crest cells, which may result in both Peters' anomaly and PHPV, given the common mechanism underlying migratory disorders of neural crest cells and that which occurs during the critical period described for the diseases.[2] This hypothesis is consistent with recent findings that *PITX2* expression in neural crest cells is observed not only in the anterior segment but also in the vitreous cavity at embryonic day 12.5 in mice.[3] Moreover, the deletion of 6p25, on which *FOXC1* is located, which has a functional link with *PITX2*,[4] was reported to be associated with PHPV and Axenfeld–Rieger syndrome,[5] a syndrome thought to present the same spectrum of defects as Peters' anomaly.

We should carefully inspect the posterior segment in addition to the anterior segment in patients with congenital central corneal opacity. Molecular genetic analysis of *PITX2* can help provide an accurate diagnosis of the diseases.

Figure 2 Electrophorogram of the sense strand of genomic DNA. (Top) A novel heterozygous missense mutation of C to A at 649 bp in *PITX2* (Pro217Thr) from the patient. The arrow indicates the portion of the mutation that is absent in a healthy control (bottom).

References

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3 Evans AL, Gage PJ. Expression of the homeobox gene Pitx2 in neural crest is required for optic stalk and ocular anterior segment development. *Hum Mol Genet* 2005; **14**: 3347–3359.
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Sir,

High-definition spectral domain OCT of a subretinal nematode

Diffuse unilateral subacute neuroretinitis (DUSN) is an inflammatory syndrome caused by subretinal nematode

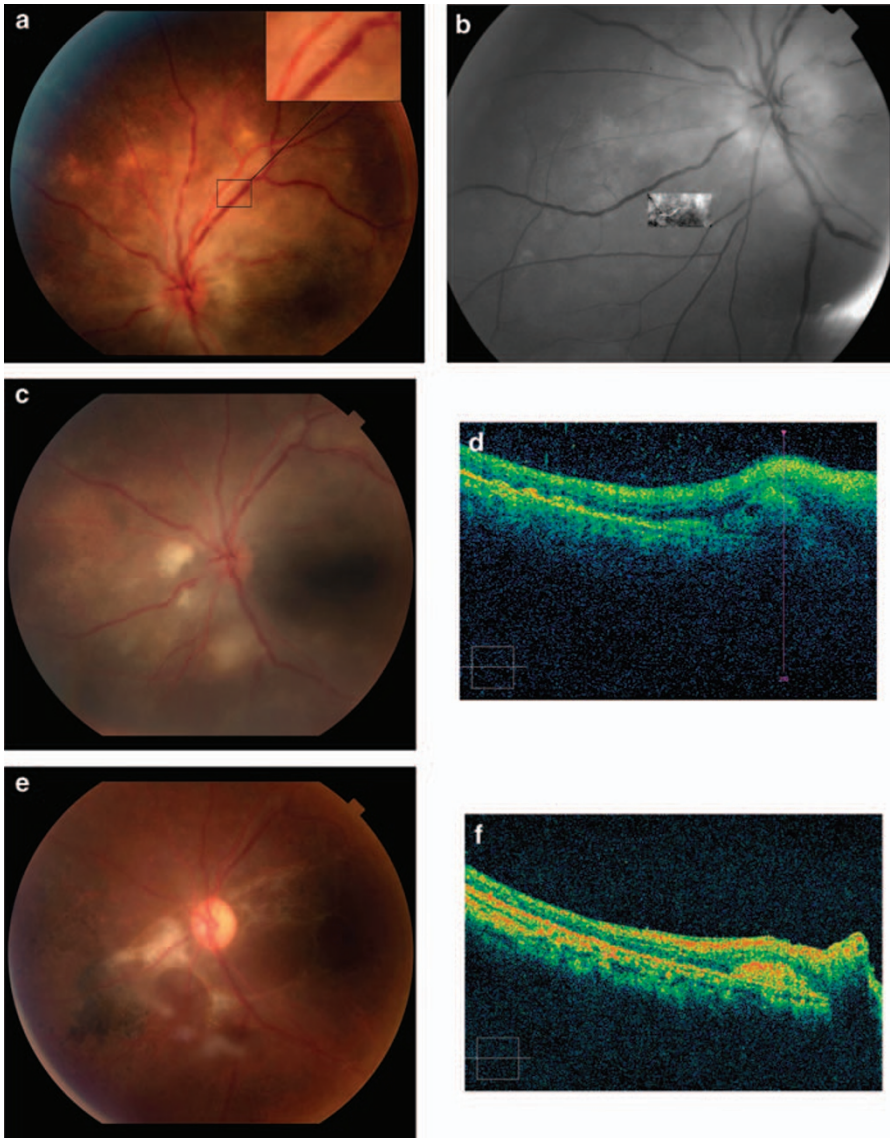

Figure 1 (For caption please refer next page).