

began to find the eye uncomfortable. On examination there was superficial and deep corneal vascularisation. The anterior chamber had an almost total hyphaema with a red reflex just discernible in the superonasal quadrant, but no iris was seen. The intraocular pressure was 8 mmHg. A left enucleation was performed.

Macroscopically there was a pale grey mass measuring 7 mm in diameter in the posterior segment. Histological examination revealed the diagnosis to be a sparsely pigmented choroidal melanoma of epithelioid cell type. There was no evidence of tumour necrosis. Bruch's membrane remained intact and there was no sign of scleral spread or extraocular extension. The remaining choroid showed signs of inflammation and the ciliary body was atrophied. Multiple cuts were taken for examination. The lens was seen dislocated inferiorly but there was no sign of iris remnants or retina. The appearances were suggestive of an ongoing chronic uveitis in a phthisical eye containing a choroidal melanoma. One can only speculate as to why there was no iris or retina present. It is possible that there had been a previous ischaemic episode involving the ophthalmic artery accounting for the unusual degree of degenerative atrophy seen in both the anterior and posterior segments.

The presentation of this patient was remarkably similar to the three cases discussed by Rose *et al.* and reinforces the message that cases of malignant melanoma may well masquerade as orbital cellulitis and should be investigated accordingly. It was difficult, however, despite a high index of suspicion and the use of modern imaging equipment, to make the correct diagnosis in our patient without the benefit of histopathology.

I should like to thank Prof. A. Garner (London) for the tumour histopathology and Mr. A. Mathur (Hull) for allowing me to present this case.

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Reference

1. Rose GE, Hoh HB, Harrad RA, Hungerford JL. Intraocular malignant melanomas presenting with orbital inflammation. *Eye* 1993;7:539-41.

Sir,

I enjoyed building a model eye for indentation practice as described by Chew and Grey,¹ but would like to make the following suggestion to increase its usefulness. The authors pointed out that using a 90 dioptre lens in the model eye left it highly myopic. As an alternative to this I have used the eyepiece lens from a Haag Streit slit lamp. If the eyepiece barrel is removed, the lens which is closest to the observer in normal use (contained in the black metal eyepiece flange with 10× inscribed on it) can be

unscrewed from the barrel. With the flange facing outwards this will then fit in the same hole required for the 90 dioptre lens in the model eye. The resultant eye now has a refractive error of approximately +3.75 dioptres. It can be used in just the same way for indentation practice, but as it is mildly hypermetropic it now has the added advantage of being useful for practising refraction.

To perform both types of examination on the same eye requires a smaller stand. This is because the eye needs to be able to point vertically upwards (for indentation practice) and horizontally (for refraction practice). This can be overcome by using the storage pot of a three-mirror lens. The inside of the pot is conical and made of rubber. By firmly pushing the model eye into the pot, a vacuum is created which holds the eye in position. With the model eye facing upwards, indentation is now possible. While indenting, support from the thumb of the indenting hand can be given to make sure that the eye does not move out of the pot. For refraction, the eye and pot combination can be rested on its side in the upturned lid of the three-mirror pot. The eye now faces horizontally and if a trial lens frame is placed in front of the eye, the eye can be refracted. By placing other trial lenses in the frame, the refractive error of the eye can be adjusted to any power to test the skills of the trainee.

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Reference

1. Chew CF, Gray RH. A model eye to practice indentation during indirect ophthalmoscopy. *Eye* 1993;7:599-600.

Sir,

Between 1987 and 1991, 15% of all 3342 penetrating keratoplasties reported to the Corneal Transplant Study were combined with cataract extraction and lens implantation (triple procedures).¹ During the years 1986 to 1992, of 461 penetrating keratoplasties performed on *phakic* eyes in Manchester Royal Eye Hospital 24-36% (average 30%) per annum were triple procedures.

We therefore welcome the article on triple procedures by Claoué *et al.*,² there being little about this in the British literature, and write to report our own experiences with this operation.

A two-surgeon series (A.E.A.R. and A.B.T.) of 38 consecutive triple procedures performed between 1987 and 1991, using punched organ-cultured corneoscleral discs only, has been analysed. Follow-up ranged from a minimum of 1 year to a maximum of 5 years (average 29 months). The results are given below.

There were 24 female patients (26 eyes; average age 75 years) and 11 male patients (12 eyes; average age 65 years). Thirty-two of thirty-eight eyes (84%) underwent pre-operative biometry, though approximations of K read-

ings (normally 7.7) were used in 5 eyes where corneal disease precluded accurate keratometry.

There were no major per-operative complications during the procedures, of which 14 of 38 (37%) were performed under local anaesthesia, the majority without scleral support. In most cases 16–20 interrupted 10/0 nylon sutures were used. The fellow eyes of 10 patients in this series have also undergone a triple procedure.

Actuarial graft survival of 87% at 1 year was achieved, with only 3 eyes having a poor outcome in terms of corneal clarity (rejection after a third re-implant, recurrent herpes simplex keratitis and persistent epithelial defect). Rejection episodes in 2 further eyes have been successfully reversed. Anterior synechiae occurred in 4 eyes, additional sutures were required in 3 eyes within 1 week of surgery, 2 eyes developed pupil capture around the lens implant and YAG capsulotomy has been performed in 3 eyes.

On the basis of the most recent attendance (mean 29 months post-operatively) 37 of 38 eyes (97%) achieved a visual acuity equal to or better than that recorded pre-operatively, usually with some sutures remaining. However, in 28 patients (who have not had bilateral triple procedures) only 17 (61%) currently have a better corrected acuity than that of the fellow eye.

In 22 of 38 eyes (58%) equal-sized donor and recipient trephines were used, and these had a mean residual spherical equivalent of $+2.82 \pm 5.07$ (mean \pm SD) dioptres and a mean cylindrical error of 2.69 ± 1.6 dioptres, whereas in eyes for which the donor punch was 0.25–0.5 mm larger than the recipient trephine a mean residual spherical equivalent of 0.9 ± 2.8 dioptres ($p = 0.07$) and a mean cylindrical error of 3.45 ± 2.03 dioptres

($p = 0.23$) was found. In the 27 eyes where full biometry was available the mean difference between the predicted spherical equivalent and that achieved was 1.47 ± 3.35 dioptres.

We have found that the triple procedure is effective in improving visual acuity, as well as relieving the discomfort associated with corneal decompensation, in what are often complicated eyes. It can be safely performed under local anaesthesia. We feel biometry and the use of an 'out-size' donor button help in offsetting the tendency towards undercorrection of refractive error in these mainly elderly patients, as emphasised by Claoué *et al.*

We are currently using our findings to improve the outcome of triple procedures in our hands to achieve the following: (1) relief of pain and infection where relevant, (2) overall improvement of visual field, (3) substantial improvement in visual acuity, (4) avoidance of undercorrection of refractive error and (5) corrected visual acuity equal to, or better than, that of the fellow eye.

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References

1. Bradley B. Personal communication, on behalf of the Corneal Transplant Follow-Up Study.
2. Claoué C, Ficker L, Kirkness C, Steele A. Refractive results after corneal triple procedures (PK + ECCE + IOL). *Eye* 1993;7:446–51.