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Sir,

Success rates in the National Survey of Trabeculectomy

We thank Murthy and Clearkin¹ for their interest in our paper.² Their comment that the main outcome measure was decided only after data collection is incorrect. In the Methods section of our paper, the sentence 'The main outcome measure of trabeculectomy success was defined as an IOP at 1 year following trabeculectomy of less than two thirds the preoperative IOP' was intended to indicate that trabeculectomy outcome was measured one year after surgery, not that the study definition of success was defined at one year following surgery.

Table 5² was provided to allow individual clinicians to assess the national figures using IOP cut-offs of their choice as Murthy and Clearkin have done, and their calculations are correct if we take 'up to 15' to mean 'up to but not including 15' and 'greater than 6.5' to mean 'greater than 6 mmHg'. Murthy and Clearkin highlight the dilemmas of choosing outcome measures for trabeculectomy and re-iterate our point in the conclusions of our methodology paper,³ that emphasis

should be on visual field changes rather than focussing mainly on IOP when making decisions in the management of glaucoma patients. They also support our justification for using an outcome measure that is more discriminating than the traditional cut-off around 21, which, whilst allowing some degree of comparison with the literature, results in higher success rates.

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Sir,

Mini-autograft for pterygium surgery

The authors Young *et al* in their letter to the editor address several issues regarding the technique of mini-autograft for pterygium surgery.¹ Each of these issues is addressed as follows:

- (1) 'The measurements of the sizes of the pterygia and the criteria for case recruitment and selection were not specified.'

Author response

Size of pterygium The sizes of the pterygia were not an inclusion or exclusion criteria in this series of cases.¹ It included patients who had one, two and three previous pterygium excision surgeries. It also included one patient with diplopia due to restriction in ocular motility secondary to the extensive recurrent

pterygium.¹ Also pterygia, which were significantly thick and fleshy, were in this group of patients.

However, the horizontal distance from the limbus was 3 mm for the excision of the pterygium.¹ The autograft was 1 mm oversize in the horizontal (3 to 9 o'clock meridian) length from the limbus. The vertical (12 to 6 o'clock meridian) distance of excision was about 1 mm greater than the full length of the pterygium at the limbus, both superiorly and inferiorly. Therefore, the total vertical (12 to 6 o'clock meridian) length of the autograft was 2 mm greater than the total vertical length of the pterygium at the limbus. Hence the vertical distance varied to some extent in the different cases depending on the arc length of limbal involvement with the pterygium.

Criteria for case recruitment and selection The study included both primary and recurrent pterygia.¹

(2) 'Details on the extent of sub-conjunctival dissection of pterygial tissue and whether the overlying conjunctiva was preserved were not elaborated in the report.'

Author response

The publication states that the dissection was carried out to the bare sclera (page 292, Figure 2 top left and right).¹ When one states that the bare sclera was the end point of dissection, this implies that all of the overlying tissues were excised, which would then include all of the pterygial tissue and the epithelium.

Jap *et al*² described a technique of epithelial preservation with excision of the underlying fibrovascular pterygium tissue, and the original epithelium was replaced over the bare sclera with a 180 degree rotation.² Most surgeons do not leave in place the epithelium overlying the pterygium when doing pterygium surgery.

(3) 'Pterygia tend to recur around the edges of the grafts (outflanking), and the importance of a sufficiently large graft is accentuated.'

Author response

The author agrees with the premise that pterygia tend to recur around the edges of the autograft. This happens if the limbal vertical (12 to 6 o'clock meridian) length of the autograft is smaller than the limbal vertical length of the excised pterygium. The author recommends 1 mm larger vertical (12 to 6 o'clock meridian) length at the top and bottom of the edges of

the pterygium at the limbus, ie, 2 mm larger than the total vertical length of the pterygium at the limbus.

The author is of the following opinion (John Hypothesis):

TLVL of Autograft < TLVL of excised Pterygium = Recurrence of Pterygium

TLVL of Autograft > TLVL of excised Pterygium = Usually no recurrence of Pterygium

[TLVL, Total limbal vertical (12 to 6 o'clock meridian) length]

In all cases reported,¹ the horizontal length of 3 mm from the limbus remained constant but the vertical limbal length varied depending on the pterygium to be excised.

(4) 'For extensive or recurrent cases, in order to eliminate any active residual tissue, working over the area of medial rectus muscle is unavoidable.'

Author response

This is not entirely true. The present report¹ had both extensive and recurrent cases of pterygia. In none of these cases, was any surgery performed over the area of medial rectus muscle. This entails leaving behind some of the tissues over the medial rectus area in those cases of extensive or recurrent pterygia without any significant postoperative complications.

When dealing with the pterygium and its recurrences, it is the growth over the cornea that is of clinical significance.

(5) 'Furthermore, if this mini-auto grafting technique is applied, the conjunctiva over the remnant area medial to the excision margin will remain inflamed and rugged in appearance.'

Author response

This is true in the immediate postoperative period. During the initial postoperative period the tissues distal to the margin of the autograft on the conjunctival side may remain inflamed and 'rugged,' if that was the case preoperatively since no surgical manipulation takes place in this area. Usually, pterygium excision is not carried out when the pterygium is inflamed and the surface is 'rugged' in appearance.

The redness over the pterygial tissue that is not excised remains as such for about 2 months

postoperatively, during which time there is a gradual reduction in the intensity of the redness. By about 3 months following the pterygium excision and conjunctival mini-autograft,¹ the eye is quiet and there is no significant redness that the patient complains of. None of the patients in this series¹ required a second operation to excise the remnant pterygial tissue distal to the autograft for any cosmetic reason.

It is possible that the revascularization and changing vasculature patterns reported recently by Chan *et al*,³ following the pterygium excision and conjunctival mini-autograft,¹ may play a role in the eye becoming quiet without any disturbing redness.

(6) 'We believe that further work is required before conjunctival mini-autograft can be considered efficacious.'

Author response

With any new surgical technique or variation in surgical technique from an existing technique, there always need to be studies to establish the continued efficacy of the described procedure. As such the author agrees with the statement made by Young *et al*. The author has found the technique of pterygium excision with conjunctival mini-autograft¹ to be effective in both primary and recurrent pterygia.

When dealing with the surgical management of pterygium, there are several different procedures described in the literature.^{2,4-16} The technique of pterygium excision with conjunctival mini-autograft has several advantages described in the publication.¹ The surgeon has to select a procedure that gives consistently good results in his or her hands when dealing with pterygium surgery. This technique of conjunctival mini-autograft does not require special tissues such as human amniotic membrane,¹² mucous membrane from the mouth,¹⁴ or large conjunctival auto-grafts.¹¹ This technique of pterygium excision with conjunctival mini-autograft,¹ provides yet another very effective surgical approach when dealing with primary or recurrent pterygia.

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