

Interestingly the superior bulbar conjunctiva was mostly normal (97.6%). I think this recent report² prohibits the use of inferior conjunctiva in pterygium surgery, especially in recurrent cases.

Based on previous clinical experiences and reported results I would still recommend the use of conjunctival autograft from the superior bulbar conjunctiva.

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A response is not received from the authors.

Peer Review System in Health Sciences

Dear Editor,

Congratulations on the recent excellent editorial on the peer review system in health sciences.¹ In this electronic age, when transmission of knowledge is faster, many may feel that the peer review system is quaint and dated. However, all new knowledge is not necessarily good or valid knowledge. Is it really necessary for us to follow CNN's line of "be the first to know"? Is it mandatory to implement new medical knowledge immediately? Do we really have to be the first on the block to try something out? What if further follow-up or subsequent study proved us wrong? Witness the recent confusion surrounding hormone replacement therapy. The question is obviously critical in medicine. It is in this situation that the peer review process helps filter data for us and I congratulate the editor and the reviewers of the *Indian Journal of Ophthalmology* for maintaining the high standards required of peer review.

The balanced editorial also pointed out potential deficiencies in the peer review process; one of them is perhaps an occasional oversight in the review of a paper that might lead to inappropriate acceptance despite flaws, or rejection despite merits. Naturally every attempt is made to minimise such occurrences but they do occur and eventually it is our (the reader's) responsibility to assess the article carefully before extrapolating or applying the findings.

I feel this would be an opportunity to draw attention to established guidelines for reading the medical literature. There is an easy format that I would

recommend to those who might be interested.² The article is approached under a uniform framework comprising six headings and several questions are asked under each. As an example, I briefly (and in the interests of space, incompletely) apply some of the guidelines to an original article published in the same issue of the journal: "Primary inferior oblique overaction-management by inferior oblique recession."³

1. Study Design

a. *Has the hypothesis been clearly stated?* While the hypothesis can be surmised from the introduction, the objective is stated clearly enough: "to present the specific results produced by one procedure, Park's 10 mm inferior oblique recession consistently applied to all patients with V phenomenon with inferior oblique overaction (IOOA)".

b. *Is the study design appropriate to the question?* A case series is indeed appropriate.

c. *Is the sample size large enough to address the issue?* Unfortunately, 10 cases are really not enough to address this issue. Either way, it is appropriate to provide a sample size calculation based on acceptable alpha error and desired power.

2. **Assignment of cases:** It is usual to state the denominator from which the cases were drawn. Was the selection of these 10 cases consecutive, random or selected cases based on some unstated criteria? This is important as there could be bias involved. Most readers would need this information before applying the findings.

3. **Assessment of cases:** This includes the outcome measure used for assessment. There are several points to look for in the outcome measure; we will highlight only a few.

a. The prism bar cover test in the various directions of gaze is certainly appropriate to assess the magnitude of the deviation. (The near deviation in up and down gaze may not mean very much in the A and V patterns but that information is interesting). However, every measurement is subject to error, which may be due to various causes. This error or variation in prism bar testing is best determined and stated. For example: even if the same examiner were to measure the same patients several times, he would get perhaps slightly different readings. It is important to know which one was taken – the first, last, the one which "felt" correct, or the mean of several? Also intuitively there is a question about the accuracy of the measurements in a 4-year-old and perhaps even a 7-year-old. Surely, these tests needed to be performed several times.

b. At what time after surgery was reading taken? Was it the same for all patients? Who took the readings? Was it the same person? Were the testing conditions specified and similar? Was the examiner the same as the surgeon?

Was the examiner masked to the preoperative findings?

c. In Figure 1a, there seems to be a right esotropia. In the postoperative Figure 1b in the primary position, there seems to be a left esotropia. It is difficult to surmise from photographs whether the alignment is satisfactory. It may well be, but "satisfactory alignment" should preferably be defined in the methods section as an outcome measure.

d. Either way from the clinical point of view, the figures need to be looked at very critically. If we examine the photographs depicting elevation in this patient, straight "up" gaze in the postoperative photograph looks more like the primary position. This position can only be compared to a similar position in the preoperative Figure 1a. The photograph for postoperative laevo-elevation also does not actually seem to be true laevo-elevation; it seems very much like the postoperative laevo-version instead. For comparison we need to ensure that we compare findings in the same positions.

4. Analysis: The analysis must be appropriate for the data and mentioned clearly in the methods section. Here I will only mention the need to build a confidence interval around the mean correction of the pattern. With small numbers the confidence intervals can be very broad.

5. Interpretation: Amongst other things the authors comment on the achievement of "satisfactory binocularity." Satisfactory binocularity has not been defined or tested in the study and it is therefore inappropriate to comment about this at all.

6. Extrapolation: Given the methodology, can the findings be applied to the type of patients we see? The findings are interesting, but it would seem that there is insufficient information to apply these to our patients.

I am sure the majority of subscribers already read the literature critically. I hope I have evoked some interest in a more critical appraisal amongst some of the others. There is obviously much more to this than the brief comments made above. For those who would like to delve further, *Studying a Study and Testing a Test*² is probably the book for you.

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In reply

We appreciate the interest shown by Dr. Thomas in our article. The article focuses on the peer review system, using an article as an example. We would like to clarify the points raised in connection with our article.

Study design

The purpose of our study was clearly stated. The purpose was to evaluate the effect of 10 mm inferior oblique recession in horizontal strabismus with V pattern and primary inferior oblique over action.

We agree with Dr. Thomas that 10 consecutive cases are not really enough to address the issue; a larger series would throw more light though the results of a small series cannot be ignored.

The Prism bar cover test is the most commonly used method for assessing the magnitude of deviation. To minimise error in measurement, the mean of three readings was taken under similar and specified conditions 3 months after the surgery for all patients. The registrar of the unit took the readings. Examiner and surgeons were different. The person who made all the readings, the examiner and the surgeons were all masked to each other. We did not find difficulties in measurement of deviation in patients up to 4 years of age. The most important positions for satisfactory alignment in A/V pattern are primary and down gaze and the clinical photographs clearly show satisfactory alignment in both these positions.

We also believe the information can be applied to patients specified in our inclusion criteria.

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