
LETTERS TO THE EDITOR

Sir,

I read with interest the article on 'Extraocular compression prior to cataract surgery: time course of reduction and subsequent recovery of intraocular pressure' by P. H. Constable and E. J. B. Porter.¹

Whilst congratulating the authors on presenting a well-documented study I felt that Table I could have included also the absolute value of the intraocular pressure (IOP) at each reading in both the test and control eye so that readers could gain an idea as to how much the peribulbar injection had raised the IOP. The volume of material injected, too, could have been mentioned for the purpose of interstudy comparison.

It is my impression that the use of various external ocular compression devices following retro- or peribulbar injections was essentially directed towards reduction of orbital pressure: pre-operatively lowering normal IOP is of very little or no practical value as once the eye is opened the IOP equates with atmospheric pressure. A study that we are undertaking to measure the orbital pressure using a type of compression tonometer could provide the benefits of orbital compressive devices. Using orbital compression for 40 minutes, especially in elderly patients with compromised arterial perfusion of the ocular tissue, can lead to some degree of functional impairment.

It was also interesting to see lowering of the IOP occurring in the control eye, which supports an earlier unpublished study carried out in our department. Using a Tonopen to measure the IOP of the unoperated eye during intraocular surgery it was found that the IOP dropped once the fellow eye was opened, and the possibility of a central mechanism, which 'gears down' to lower IOP levels, was postulated. The reduction in IOP in the fellow eye when unocular glaucoma is treated could also be explained on this basis rather than the suspected systemic effect of topical medications used.

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Reference

1. Constable PH, Porter EJB. Extraocular compression prior to cataract surgery: time course of reduction and subsequent recovery of intraocular pressure. *Eye* 1993;6:731-734.

Sir

In reply to the letter from Mr Chandra regarding our paper 'Extraocular compression prior to cataract surgery: time course of reduction and subsequent recovery of intraocular pressure'¹ I would make the following comments.

The study aimed to establish the timing and degree of changes in intraocular pressure (IOP) caused by the use of the mercury weight alone, and therefore our readings were all made on normal eyes that had not received any peribulbar or retrobulbar anaesthetic. The increase in IOP found immediately after regional anaesthesia is quite variable, as the volume of the injection, the volume of the orbit and the globe, and the anatomical site of the injection are all likely to be factors affecting the extent of the IOP rise, and controlling for all these factors would be extremely difficult.^{1,2}

A reduction in orbital pressure caused by the compression device would certainly seem to be beneficial, and I would agree that the anterior segment pressure rapidly equating to atmospheric once the eye is opened renders changes in aqueous production negligible, but I feel that the reduction of vitreous volume and pressure is still highly significant, and possibly the chief benefit of external ocular compression.

The control eyes in our study did show a mild reduction from baseline levels, but these levels were statistically insignificant, and I would be wary of further interpretation of them as supporting data for a contralateral IOP change in untreated eyes.

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References

1. Constable PH, Porter EJB. Extraocular compression