

Sir,  
**Increased intraocular pressure on the first post-operative day following sutureless extracapsular cataract surgery in Africa**

We read with interest the article by Kim *et al*<sup>1</sup> investigating intraocular pressure (IOP) elevation following resident-performed cataract surgery. High-volume extracapsular cataract extraction (ECCE) is routinely performed in sub-Saharan Africa, where access to phacoemulsification is scarce. However, knowledge of post-operative changes in IOP post-ECCE in African eyes is limited.

Therefore, following ethical approval (Malawi College of Health Sciences), we prospectively studied 145 consecutive sutureless ECCE operations for senile cataract at Nkhoma Eye Hospital, Malawi, in 2010. IOP was assessed using a Reichert AT555 non-contact tonometer (Reichert, Depew, NY, USA). Length of operation was determined starting from superior rectus suture to speculum removal, and time of irrigation/aspiration (IA) was determined by duration of removal of viscoelastic after IOL implantation.

Mean age of patients was 67.7 ± 9.1 years, and 55.7% were female. Five people had pseudo exfoliation, and one had open-angle glaucoma. No one was currently taking IOP-lowering medication, or corticosteroids. Mean operative length was 550 ± 144 s, and mean IA time was 53 ± 22 s. Three cases (2.1%) involved posterior capsule tear with vitreous loss.

Mean IOP pre-operatively was 15.4 ± 4.9 mm Hg, rising by a mean of 9.8 mm Hg at 6 h post-operatively (paired *t*-test, *P* < 0.001), and was also significantly elevated at 24 h compared with baseline (*P* = 0.02; Table 1). There was a statistically significant difference in IOP across all groups (ANOVA, *P* < 0.001). Over half (53.0%) had IOP ≥ 23 mm Hg and 34.7% had IOP > 30 mm Hg 6 h post-operatively. Pre-operative IOP was a significant predictor of post-operative IOP at 6 h (*P* < 0.001). However, length of IA was not associated with IOP at 6 h post-operatively (*P* = 0.316).

In this African population, a post-operative rise in IOP after ECCE is common, and higher than recently reported.<sup>1</sup> IOP was significantly raised at 6 and 24 h post-operatively, but reduced almost to baseline at 48 h. Nonetheless, a long-term decrease in IOP of up to 4.4 mm Hg at 6 months following ECCE has been shown.<sup>2</sup> Viscoat is used at Nkhoma, and has also been shown to cause significantly higher IOP increase than Ocucoat.<sup>3</sup> Additional research is planned to further elucidate risk factors for IOP rise following ECCE in our African population.

**Table 1** Pre and post-operative intraocular pressure (IOP) in 145 Malawians undergoing sutureless extra-capsular cataract extraction (ECCE) for senile cataract

	Pre-operative	6 h post-operatively	24 h post-operatively	48 h post-operatively
Mean ± SD	15.4 ± 4.9	25.2 ± 13.7	19.5 ± 10.3	13.8 ± 6.4
Range	8–34	3–74	5–69	7–44
95% CI	14.3–16.5	22.8–27.6	17.6–21.5	12.4–15.2

Abbreviation: SD, standard deviation.  
All data are expressed in mm Hg.

**Conflict of interest**

The authors declare no conflict of interest.

**References**

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Sir,  
**Comment to 'Increased intraocular pressure on the first post-operative day following sutureless extracapsular cataract surgery in Africa'**

We appreciate Dean *et al*'s<sup>1</sup> interests in our previous article regarding the elevated intraocular pressure (IOP) on the first postoperative day following resident-performed cataract surgery.<sup>2</sup> Dean *et al*'s study is so interesting as it shows the postoperative IOP change early after planned sutureless extracapsular cataract extraction (ECCE). Only 22 of 1111 total cases (2.0%) were a planned ECCE in our database. In 22 ECCE cases, mean age was 71.4 ± 17.0 years and 54.5% were male. Seven had diabetes, one had pseudo-exfoliation, and two had glaucoma with topical anti-glaucoma medication. No case was complicated with posterior capsular tear. The preoperative IOP was 15.5 ± 3.8 mm Hg and postoperative day 1 IOP was 20.0 ± 8.4 mm Hg. The postoperative day 1 IOP significantly increased compared with the preoperative IOP (paired *t*-test, *P* = 0.02), which was consistent with Dean *et al*'s outcome. In all, 31.8% had IOP ≥ 23 mm Hg and 28.1% had IOP > 30 mm Hg. However, there were several differences between the two studies. First, the incision wound was secured by several nylon sutures in our ECCE cases. Second, the postoperative IOP was measured with the Goldmann applanation tonometer instead of non-contact tonometer.

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