

Response to: The effect of a preoperative subconjunctival injection of dexamethasone on bloodretinal barrier breakdown following scleral buckling retinal detachment surgery

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Received: 28 April 2010 / Accepted: 2 May 2010 / Published online: 25 May 2010
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Dear Editor,

As anterior chamber flare measurements have been reported to increase with age, Dr. Yoon raised the possibility that age may have acted as a confounder in our study. Particularly so, as the number of patients in our randomized study were relatively small.

Therefore, we entered age as covariate in the model. The effect of age on flare was not significant. According to the model estimates, it appeared that flare increased by 0.8 % per year of age ($P=0.23$; 95% CI: -0.6% to +2.3%). Also, the conclusions concerning the treatment effect (dexamethasone versus placebo) hardly changed when entering age as covariate in the model, as patients with dexamethasone had 1-week flare measurements 49.9 % lower than patients given placebo ($P=0.030$; 95% CI: 72.9% to 7.2% lower). These results are essentially the same as in our paper, where age was not included as a covariate. Thus, age was not a confounder in our study, and the changes in flare measurements we reported are likely to be caused by the use of dexamethasone.

Dr Yoon's second and important question concerned the relation between the anterior chamber flare measurements (ACFM) we used and the blood-retina barrier breakdown we assumed to be studying, as a factor in the development of PVR.

In uveitis patients, a temporal relation was shown between clinical signs of posterior segment inflammatory activity and ACFM [2]. In rabbits [3], photocoagulation of the retina was shown to result in raised ACFM.

Are these raised anterior chamber flare measurements reflecting a spillover of posterior segment proteins, or are they mediated by inflammatory cytokines diffusing from the posterior segment forward to the ciliary body and iris, as suggested by raised ACFM in rabbits after intravitreal injections of interleukin 1 and 6 and prostaglandin E_2 [3], a type of inverted Irvine-Gass mechanism?

To better answer Dr Yoon's excellent question, we would need studies in patients correlating ACFM with fluorophotometer readings as used in patients to measure blood-retina barrier breakdown [4]. An interpretational difficulty here would be that this method measures fluorescein leakage, a non-functional molecule, which may not necessarily be as physiological a measure as anterior chamber flare readings, which correlate with albumen and IgG leakage[1].

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