The use of steroids for long periods of time has been related with increased intraocular pressure (IOP) (1). There is a direct correlation between the time and frequency of application of topical steroids, with the elevation in IOP (2). It has been reported that the use of steroids for 3 weeks or more induces the production of the protein Myocilin by endothelial cells in the trabecular meshwork (5).

PURPOSE: To evaluate the differences in IOP and hypertensive phase after Ahmed glaucoma valve surgery with the use of a non-steroidal anti-inflammatory drug (diclofenac sodium) versus a topical steroid (prednisolone acetate).

PATIENTS AND METHODS: Sixteen patients undergoing Ahmed glaucoma valve surgery were randomly assigned to receive topical 0.1% Diclofenac or 1% prednisolone acetate as their postoperative anti-inflammatory medication. Patients signed a written informed consent form. The study was approved by our institution’s ethics committee, adhering to the tenants of the declaration of Helsinki.

Patients were examined at days 1, 7, 14, 21, 28, 3 months and 6 months. IOP measurements were done with Goldmann appplanation tonometry and inflammation was subjectively graded from 1 (minimum) to 4 (maximum).

RESULTS: There were no statistically significant differences in IOP except for post-massage IOP at day 28 (P = 0.015).

DISCUSSION: The NSAID group showed a trend towards lower IOPs during follow up, but presented with greater anterior chamber inflammation during the first two weeks. Lower initial IOPs may increase the risk of choroidal detachment requiring surgical drainage. These results suggest the possible use of a combined regimen of topical steroids during the first 2 weeks to prevent marked hypotony and control inflammation, and NSAIDs for the following 2 to 3 months to diminish the possible role of steroids in promoting the hypertensive phase.

REFERENCES