Outcome of glaucoma surgery in patients on prostaglandin analogues

Objective - To determine the effects of topical prostaglandin analogues as compared to other antiglaucoma agents on the conjunctival cell profile and results of glaucoma filtration surgery.

Methodology – Glaucoma triple procedure (trabeculectomy, phacoemulsification, and intraocular lens implantation) was performed in 109 patients and the outcome of these procedures was assessed after a minimum follow-up of 6 months. A conjunctival biopsy specimen was obtained at the time of surgery. The patients were divided into 2 groups (PG analogue and Non-PG analogue) according to the type of topical therapy administered preoperatively. Surgical outcomes were categorised according the recommendations by World Glaucoma Association.

Results – 109 patients recruited, 42 patients were in the PG analogue group and 67 were in the Non-PG analogue group. Statistically significant difference between the groups was seen at 1 month (p=0.037) and 3 month (p=0.003) follow-ups postoperatively. Final IOP was lower in Non-PG analogue group compared to PG-analogue group (P=0.051). Though no statistically significant difference was found, the chances of successful filtration surgery were higher among the Non PG group compared to the PG analogue group. The numbers of goblet cells and
plasma cells were more in the PG analogue group while the number of mast cells was more in the non PG analogue group suggestive of more subclinical inflammation and fibrosis.

**Conclusion** - While preoperative medications influence the outcome of filtration surgery, there is no statistically significant difference between the 2 groups however the postoperative IOP was lesser in the non PG analogue group. Histopathologically, the conjunctival changes induced by prostaglandin analogues were more favourable to better surgical outcomes as compared with aqueous suppressants.

**Keywords**

Prostaglandin analogues
Phacotrabeculectomy
Conjunctival cell profile
Filtration surgery
Primary Open Angle Glaucoma
Pseudoexfoliation Glaucoma