

## Comparative Studies of Dexamethasone, Betamethasone, Fluorometholone and Diclofenac Sodium on IOP of the Rabbits

[Pak J Ophthalmol](#) Jul 2002;18(3):61-5.

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**Aims:** To study the effect of various ophthalmic steroids and non-steroidal anti-inflammatory eye drops diclofenac sodium, on the intraocular pressure (IOP) of the rabbits. **Methodology:** Adult rabbits of either sex were used to study the effect of topical ophthalmic steroids and diclofenac sodium on IOP. The rabbits were climatized for about 4 weeks prior to the Instillation of various drugs into the eye and then either dexamethasone or betamethasone or fluorometholone or diclofenac sodium was instilled into the conjunctival sacs of both eyes of the rabbits, for about 28 days. During the study period IOP was measured twice a week. **Results:** Pre-treatment IOP of all the rabbits in various groups was in the range of 9-12 mmHg. After 28 days, the mean (SD) increase in IOP in dexamethasone, betamethasone and fluorometholone treated groups was elevated to 17.5 (+/-4.81), 18.48 (+/-4.5) and 21.8 (+/-5.7) mmHg, respectively. These values were significantly higher compared to the control group where the mean IOP was 11.6 (+/-2.2) mmHg. The dexamethasone and betamethasone treated eyes showed significant increase in IOP on the 7th day of the treatment while in fluorometholone treated eyes significantly higher IOP was observed on the 11th day of treatment. The IOP was stable both in control and diclofenac sodium treated eyes. **Conclusion:** The use of topical ophthalmic steroid preparations for the treatment of various eye diseases induces increase in IOP. A greater increase was observed in fluorometholone treated group compared to the dexamethasone and betamethasone treated eyes, but the difference was not statistically significant. The changes of IOP in control group and those treated with non-steroidal anti-inflammatory eye drops (diclofenac sodium) were not significant.