A novel post-operative drop regimen avoids intraocular pressure rise following pars plana vitrectomy

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Purpose

Conventional post-operative eye drop regimens following pars plana vitrectomy (PPV) include topical dexamethasone (Dex) for four weeks. This is frequently associated with intraocular pressure (IOP) rises. We compared the safety and efficacy of a novel regimen, G. Maxitrol QDS 1/52 and G. Ketorolac TDS 4/52 (Max/Ket) with conventional regimes.

Methods

Consecutive patients who underwent PPV between December 2020 and April 2021 were reviewed retrospectively. The following data were collected: demographics; operative details; post-operative drop regimen; history of ocular hypertension or glaucoma; IOP at listing, within 72 hours following surgery and two weeks post-operatively; the presence/absence of post-operative anterior uveitis (AAU), cystoid macular oedema (CMO) or endophthalmitis; and the need for additional post-operative medical treatment with anti-inflammatory or anti-hypertensive drops. Max/Ket and Dex groups were compared using the Fisher exact test.

Results

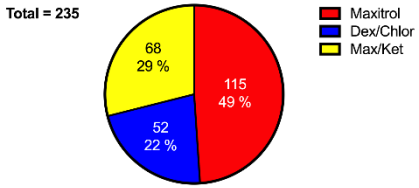


Figure 1. Total number of eyes in each treatment group. *Maxitrol*: G. Maxitrol QDS 4/52; *Dex/Chlor*: G. Maxidex QDS 4/52 & G. Chloramphenicol QDS 2/52; *Max/Ket*: G. Maxitrol QDS 1/52 & G. Ketorolac TDS 4/52.

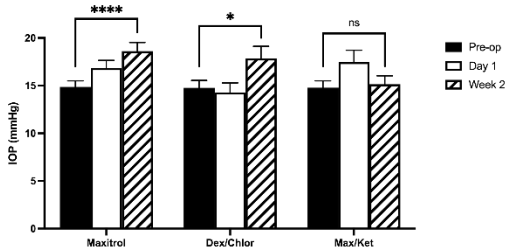


Figure 2. IOP by treatment group at each visit. Mean ± SEM. ****p<0.0001; *p<0.05; ns not significant, paired t-tests corrected for multiple comparisons.

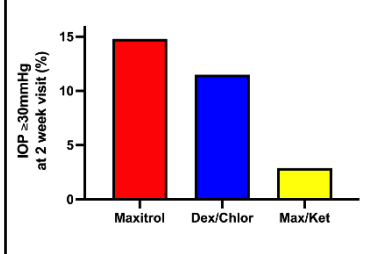


Figure 3. Percentage of eyes with IOP ≥ 30mmHg at the two week post-operative visit by treatment group.

Figure 4. Percentage of eyes in each treatment group with AAU, CMO and endophthalmitis at the 2-week post-operative visit.

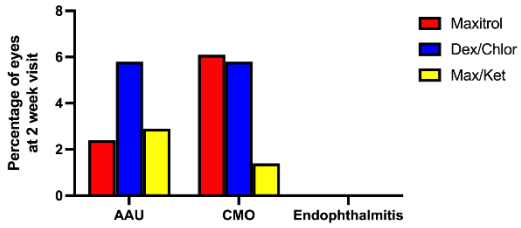
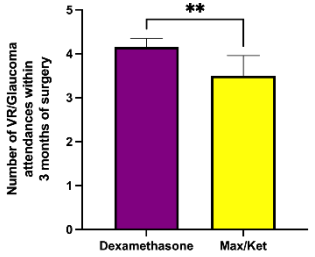


Figure 5. Number of VR/Glaucoma-related hospital visits in the three months following surgery. *Dexamethasone*: all regimes involving 4/52 topical dexamethasone treatment. *Ket/Dex*: G. Ketorolac TDS 4/52 & G. Maxitrol QDS 1/52. Mean ± SEM. **p<0.01, Mann-Whitney test.



Conclusion

G. Maxitrol QDS 1/52 and G. Ketorolac TDS 4/52 following PPV is a safe and effective post-operative regime that greatly diminishes the risk of post-operative ocular hypertension compared with current standard practice.

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