The effect of early post-op anti-hypertensive agents on the hypertensive phase following Ahmed FP 7 glaucoma valve implantation, a retrospective review
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Purpose: This study investigates the effects of the early implementation of glaucoma medications on the incidence and severity of the hypertensive phase, as well the effect on long term intraocular pressure (IOP) control in patients status post Ahmed glaucoma valve implantation.

Methods: This is a retrospective, non-comparative case series of Ahmed glaucoma implant surgeries performed at the University of Virginia, between September 2008 and July 2013. To date, 87 patients have met inclusion criteria and completed a minimum of 90 days of follow up. Absolute IOP as well as percentage relative to pre-operative baseline were recorded. The Conventional Treatment Group (CTG) (n = 58) included patients in whom glaucoma medications were initiated at the onset of the hypertensive phase (IOP > 21 mmHg in the first 8 weeks post-op). The Interventional Treatment Group (ITG) (n = 29) are patients in whom glaucoma medications are initiated at IOP < 21 mmHg.

Results: Preoperative average IOP was similar between the CTG and ITG (34.6 vs 33.5), as was number of pre-op medications (3.4 vs 3.8). At post-op month 3, the absolute IOP and percentage of baseline for the CTG and ITG were 17.14/53.8% and 18.59/59.9%, respectively. At post-op month 6, these indices for the CTG and ITG were 18.30/56.0% and 15.94/50.2%, respectively. Patients in the ITG were given more glaucoma medications than those in the CTG at post-op month 3 (2.07 vs 1.19). At 6 months, there was a smaller difference in medications between the ITG and CTG (2.19 vs 1.47). Overall, 44.8% of patients in the ITG experienced a hypertensive phase, compared with 63.8% of patients in the CTG.

Conclusions: In this sampling, a significantly lower percentage of the ITG experienced a hypertensive phase compared to the CTG. In addition, the 6 month IOP was lower in the ITG, suggesting a positive impact of early introduction of glaucoma medications postoperatively for Ahmed glaucoma valve implantation. The ITG did continue to require 0.72 more glaucoma medications than the CTG at 6 months. Further statistical analysis will be presented, as well as data on patients in our study who continue to meet end points.