

Ahmed Glaucoma Valve Implant: Experience in East Africa

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Background

Glaucoma is a leading cause of blindness worldwide which disproportionately affects the black race, often with greater challenges in diagnosis and management¹. It is important therefore that the management method for glaucoma be reevaluated in an attempt to find more appropriate management recommendations for this population. Our purpose is to evaluate the indications and outcomes of Ahmed glaucoma valve implants performed to date in the black population at two institutions in East Africa. We hope that data gleaned from this early experience will form a basis for subsequent random controlled trials for glaucoma tube surgery versus the traditional filtering procedure in this population.

Objectives

To describe short term outcomes of Ahmed Glaucoma Valve implantation in East African patients.

Methods

In this multi-center retrospective observational case series we reviewed eyes of patients with refractory glaucoma treated consecutively with Ahmed Glaucoma Valve implant in two centers in Kenya between January 2006 and October 2007. Success was defined as intraocular pressure [IOP] between 6 mmHg and 21 mmHg with or without glaucoma medications, without further glaucoma surgery and without loss of light perception.

Results

25 cases were identified that included 18 [72%] pediatric eyes and 7 [28%] adult eyes. Short term result with a median of 2 months [IQR - 1 - 12 months] are presented. IOP was reduced from a mean of 36.44mmHg before surgery to 18.6mmHg at the most recent follow-up after surgery. The average percentage IOP lowering was 49.2%. The number of anti-glaucoma medications was lowered from a mean of 1.32 before surgery to 0.2 after surgery. The success rate during short term follow-up was 79%. The mean visual acuity dropped slightly from 20/60 [logMAR - 0.3563, sd - 0.2414] pre-operatively to 20/80 [logMAR - 0.445, sd - 0.307]. Some minor complications were encountered including, anterior chamber tube block with vitreous, hyphaema, cosmetically large bleb and dellen with exposed scleral patch. There was only one major complication of an extruded, infected valve that resulted in removal of the implant in a pediatric patient.

Discussion

Our study included complicated glaucoma cases in which filtering surgeries and/or anterior chamber angle procedures had failed or had very low chances of success. Majority of these were pediatric patients. The overall percentage IOP lowering of 49.2% and success rate of 79% during our early postoperative period compares well with those reached by other similar studies^{2,3}. Most of the complications we encountered during this period were either reversible or of minimal consequences.

Conclusion

The Ahmed Valve Implant is effective in lowering IOP for the short term in East African patients with refractory glaucoma who were included in this study. It is not associated with significant major complications during this period. Further study with a large number of patients and longer term follow-up is needed in this population.

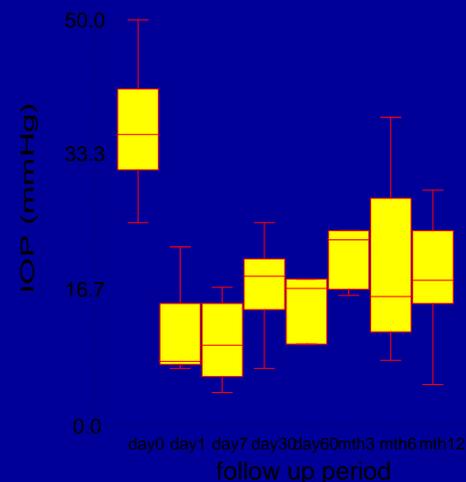
Clinical outcomes

Anti-glaucoma Medications [n]	
•Preop	1.32
•Post op	0.2
Success – n	19
Failure - n	5
Percentage of success	79%
Complications	
•AC tube block with vitreous	1
•Hyphaema	3
•Cosmetically large blebs	3
•Retracted tube	1
•Dellen with exposed scleral patch	1
•Wound dehiscence leading blebitis and endophthalmitis	1

Indications

	n [%]
•Congenital Glaucoma	11 [44%]
•Pseudophakic/aphakic glaucoma	4 [16%]
•Anterior Segment Dysgenesis	5 [20%]
•POAG	3 [12%]
•Trauma	1 [4%]
•Neovascular Glaucoma	1 [4%]

Intraocular pressure with time



Reference

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