Safety and Efficacy Outcomes of Cataract Surgery with Hydrus Microstent Insertion

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Introduction

Minimally invasive glaucoma surgery (MIGS) is increasingly used along with phacoemulsification procedure to treat glaucoma. (1) Hydrus microstent works by creating a scaffold that dilates Schlemm's canal to bypass resistance of the trabecular meshwork and enhances aqueous flow through conventional outflow systems.(2) We conducted a retrospective review of patients who underwent phacoemulsification with Hydrus microstent insertion at our centre. We describe the postoperative outcomes of combined phacoemulsification and Hydrus microstent for patients with Ocular Hypertension, Normal Tension and mild-moderate POAG.

Method

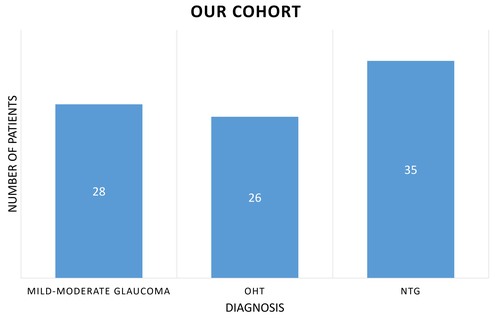
Patients with POAG, NTG and OHT who underwent phacoemulsification with Hydrus microstent insertion between July 2021 and June 2023 identified.

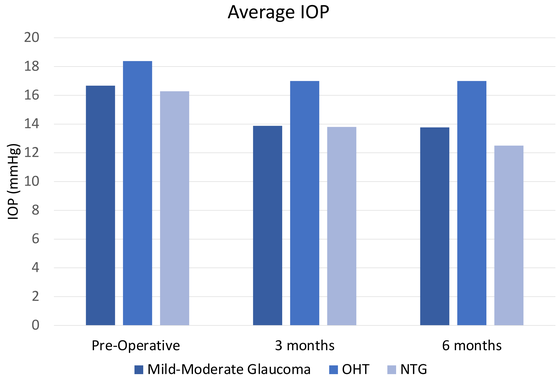
Electronic notes analysed and basic preoperative and post-operative data collected including IOP measurements, BCVA, topical medications and complications

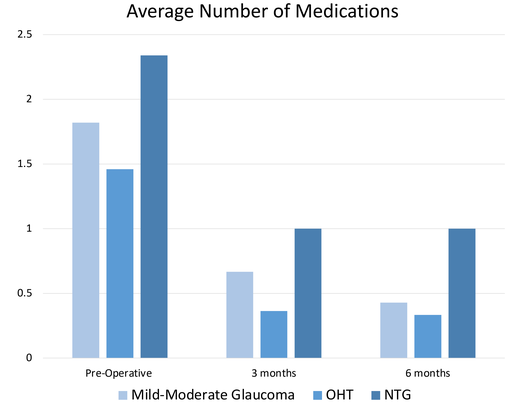
Post-operative data collected from date of operation up to 6 months. Results were analysed using Micro-soft Corp.

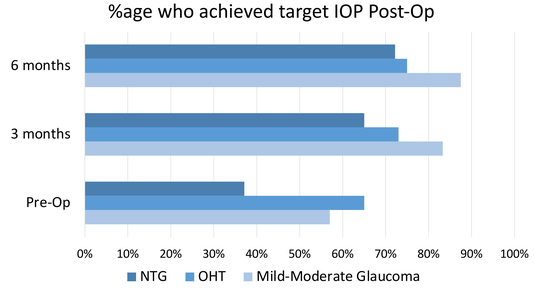
Results

89 eyes | Mean age 81 years | Laterality 58% right: 42% left | Male 61%: Female 39%









Adverse Events	Number of patients
Device related events	
Device malposition	1
Device obstruction	1
Retinal detachment	1

IOP Lowering Procedures	Number of patients
Major surgical intervention:	
Trabeculectomy	
Tube shunt	1
Other procedures	1
	2
Other IOP-lowering procedures	
SLT	
	1

Conclusion

This study demonstrated the early post-operative outcomes of patients who underwent Hydrus microstent insertion and phacoemulsification. The average number of medications being used in the affected eye reduced for all cohorts of patients. At 6 months 72% of patients with NTG, 75% with OHT and 88% with mild-moderate glaucoma achieved their target IOPs. Recommendations from this study include collecting data for long term outcomes post-operatively of patients who undergo cataract surgery with hydrus microstent insertion to assess if positive results are sustained long term.

References

1. Cantor L, Lindfield D, Ghinelli F, Świder AW, Torelli F, Steeds C, Dickerson JE Jr, Nguyen DQ. Systematic Literature Review of Clinical, Economic, and Humanistic Outcomes Following Minimally Invasive Glaucoma Surgery or Selective Laser Trabeculoplasty for the Treatment of Open-Angle Glaucoma with or Without Cataract Extraction. Clin Ophthalmol. 2023 Jan 6;17:85-101.
2. Gillmann K, Mansouri K. Minimally Invasive Glaucoma Surgery: Where Is the Evidence? Asia Pac J Ophthalmol (Phila). 2020 May-Jun;9(3):203-214.