

# Manchester Hydrus Study: 7 years efficacy and safety outcomes

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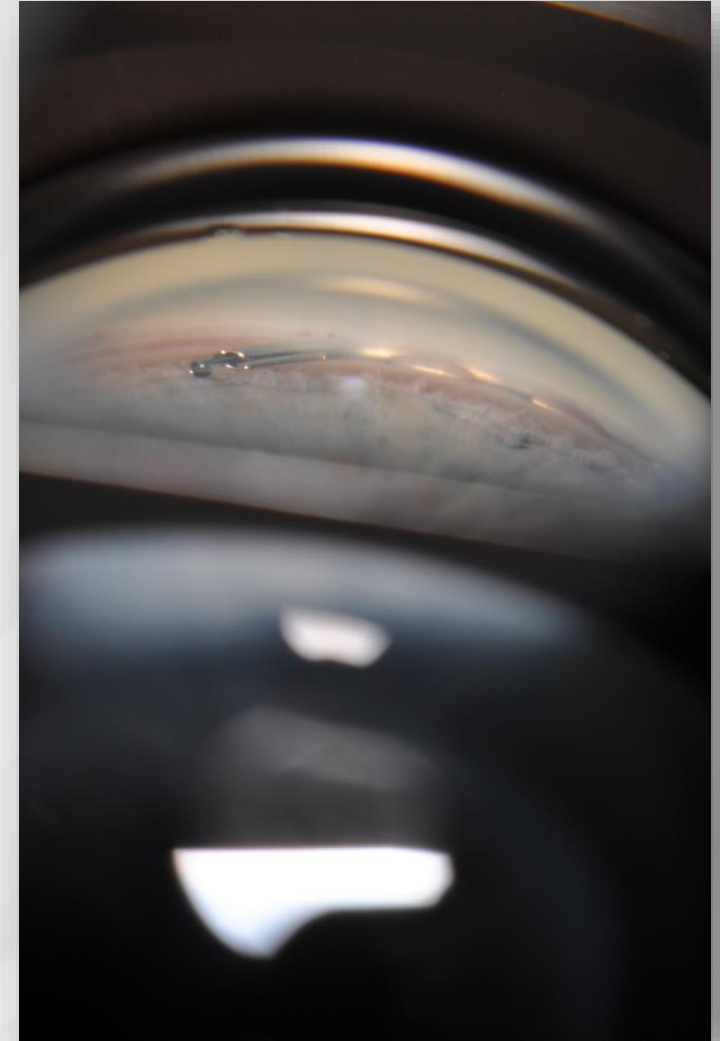
# Financial Disclosures

- Leon Au consults for Alcon



# Hydrus microstent

- 8mm flexible aqueous drainage device
- Designed to be implanted ab-interno into the schelmm's canal to bypass the trabecular meshwork
- It is mainly designed to lower IOP and reduce topical medications burden in mild to moderate glaucoma
- It is one of the MIGS procedures, and is commonly combined with cataract surgery



# Objectives

- To determine the efficacy and safety of combined phacoemulsification and Hydrus Microstent implantation over 84 months in real-world settings

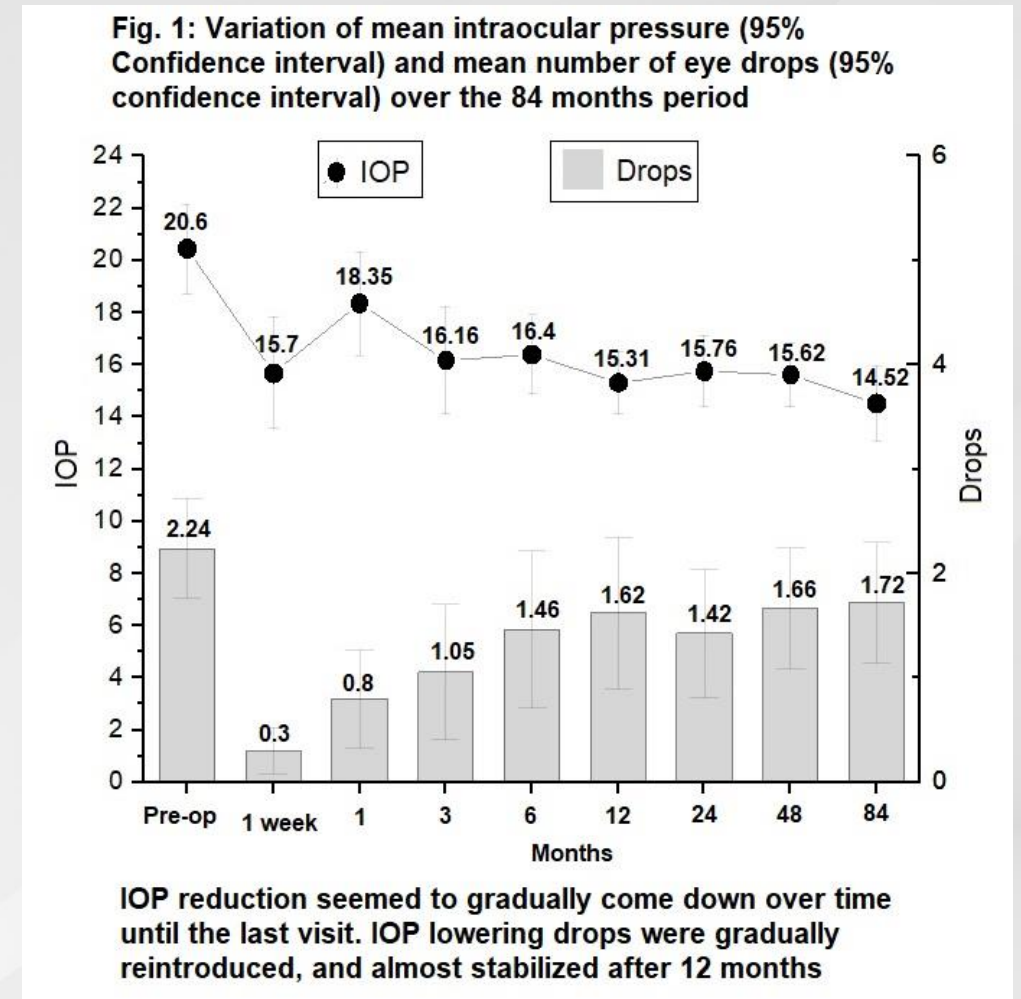


# Methods

- Single-centre, retrospective study
- 46 eyes with open-angle glaucoma from 37 patients underwent phaco-Hydrus surgery and monitored over the subsequent 84 months
- The primary outcome measure: Intraocular pressure (IOP)
- Secondary outcome measures: Number of glaucoma drops, visual acuity (VA), cup-disc-ratio (CDR), mean deviation (MD) and visual field index (VFI)
- Twenty (54.1%) patients survived to 84 months.

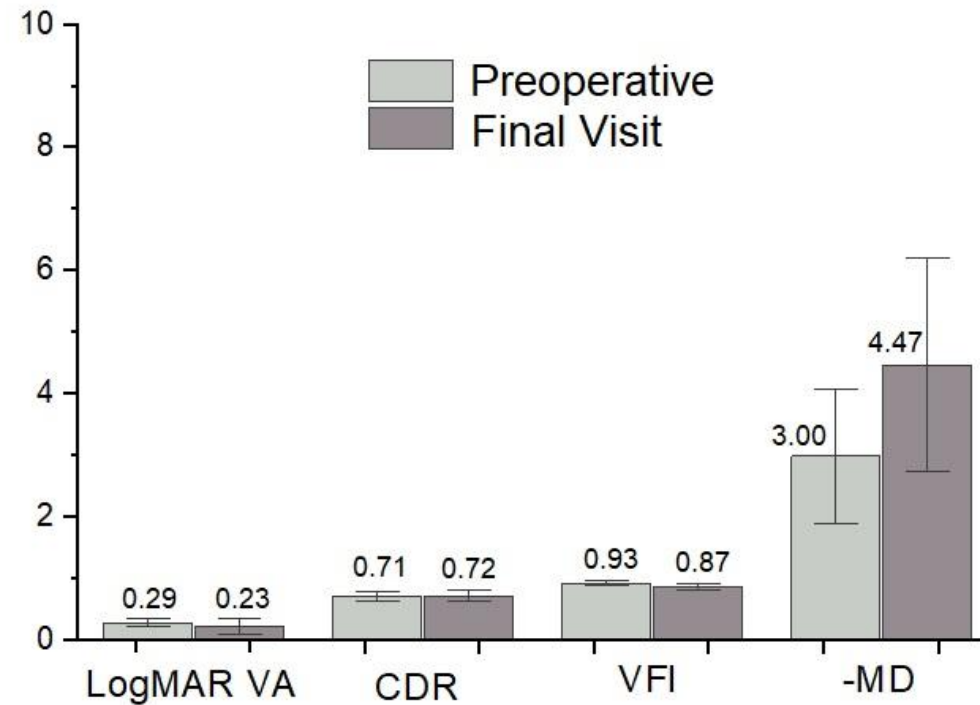
# Results

- At 84 months, we found an absolute mean reduction of IOP from  $20.6 \pm 1.64$  to  $14.52 \pm 1.39$  mmHg, and reduction in number of glaucoma drops from  $2.24 \pm 0.46$  to  $1.72 \pm 0.54$



# Results

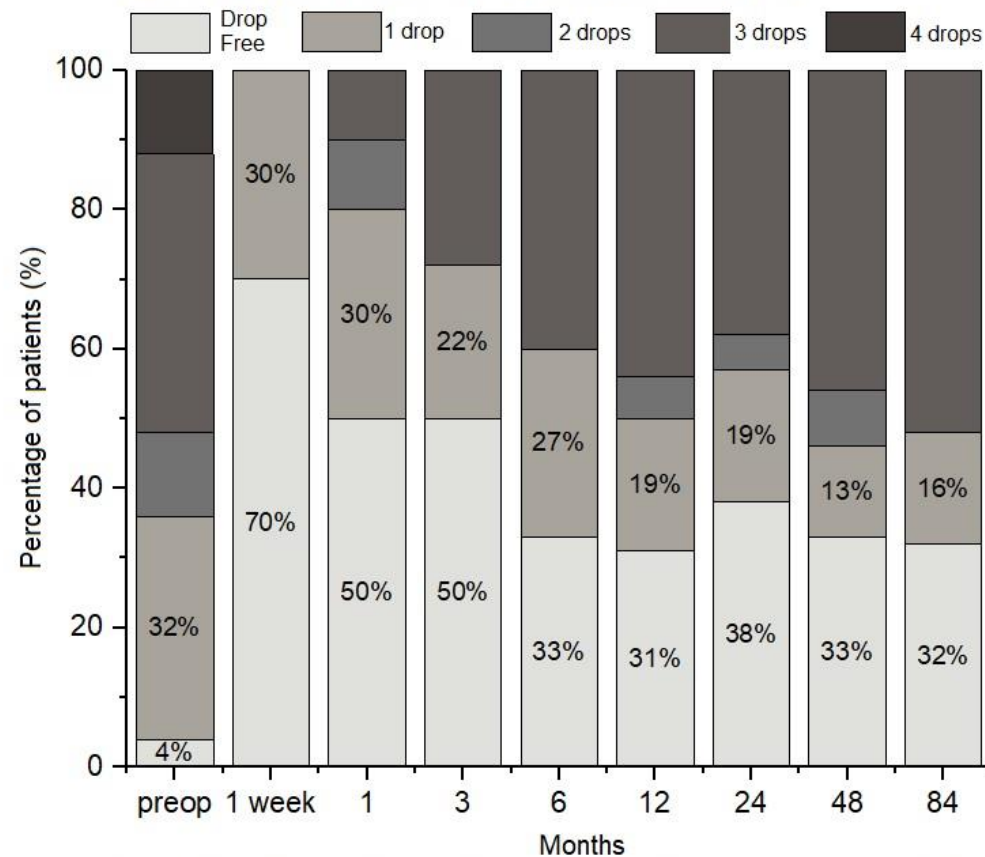
**Fig. 2: Preoperative vs final clinical parameters (95% confidence interval)**



Paired student t-test confirms statistical significance at the level of  $p < 0.05$  for VFI. The change in BCVA, CDR and MD was not statistically significant

# Results

**Fig. 3: Proportional stacked histogram showing number of IOP lowering eye drops prescribed over 84 months period**



After 84 months, 32% of patients were drop free, 16% were on a single drop. No patients required 4 drops.



# Results

- Attrition was mainly due to death (24.3%), further glaucoma intervention (15.2%) and 3 patients (8.1%) DNA their follow up
- 4 eyes (8.7%) required further SLT laser after a mean of 4.25 yrs
- 3 eyes (6.5%) required trabeculectomy after a mean of 4.17 yrs
- Complication rate was at 13%, including 3 stents (6.5%) blocked with iris, one stent (2.2%) was located into suprachoroidal space, one patient developed CMO and one case had intraoperative bleed due to iris trauma

# Conclusions

- Our 7 year results show that phaco-Hydrus surgery is highly likely to maintain a reduction in IOP and number of glaucoma drops
- The number of glaucoma drops tend to stabilise at 12 months but IOP can still decline until 7 years
- Central VA shows sustained improvement with minimal progression of VF
- In comparison to the 7 years Manchester iStent Study (Ziaei et al, 2020), the Hydrus stent seems to lower IOP further by >1mm Hg, and further 10% of eyes were drop free after 7 years
- A comparable percentage of eyes required further glaucoma intervention, while Hydrus stent had a higher probability of complications compared to iStent without significant morbidity