

N232 Bio-interventional Uveoscleral Outflow Enhancement through Allograft-reinforced Cyclodialysis: 12-month Outcome

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Overview

- Microinvasive glaucoma surgery (MIGS) lowers IOP by targeting either the trabecular or uveoscleral outflow
- Enhancing the uveoscleral pathway may provide more effective IOP reduction compared to Schlemm's canal procedures.
- Cyclodialysis with allograft reinforcement is designed to increase the uveoscleral outflow while ensuring long-term stability of the cyclodialysis conduit.

Objectives

- To evaluate the IOP-lowering and adverse event profile of the scleral allograft-reinforced cyclodialysis combined with phacoemulsification through 12 months of follow-up

Methods

- Multicenter prospective case series of 117 consecutive surgeries of scleral bio-reinforced (AlloFlo™, Iantrek Inc.) cyclodialysis combined with phacoemulsification.
- Primary outcome:
- Secondary outcomes:
 - Mean change in medicated IOP and mean number of IOP lowering medications compared to baseline.
 - Adverse events and interventions

Results

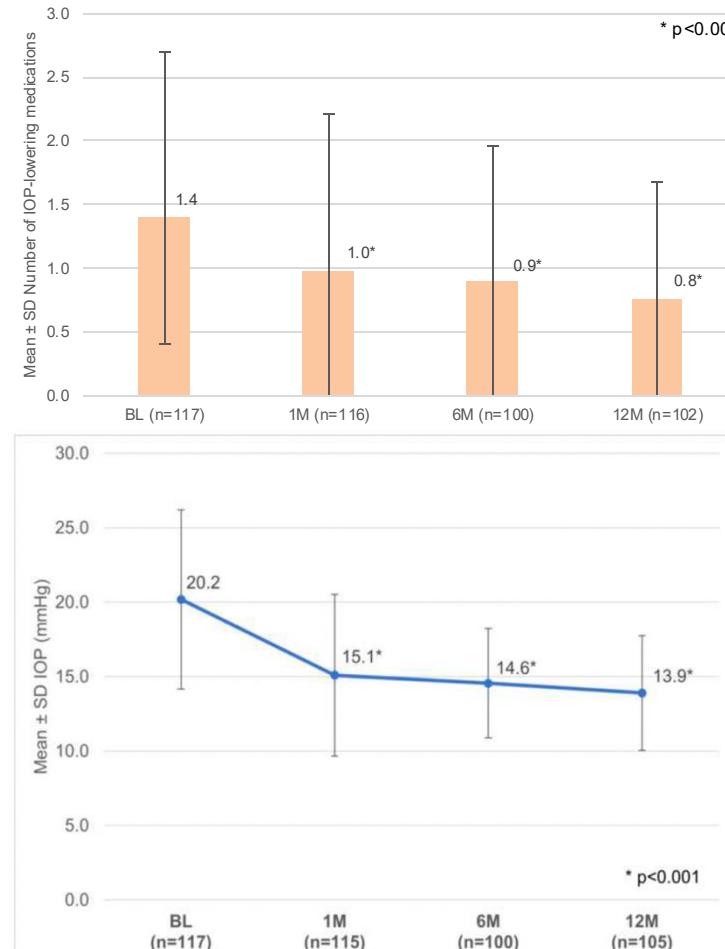


Table 2 Intraoperative and Postoperative Adverse Events Within 12 Months Following Bio-Interventional Cyclodialysis with Allograft Scleral Reinforcement

Safety Outcome	Events, n (%)
>2 lines drop in BCVA, n (%)	0 (0%)
Persistent inflammation (>1M), n (%)	0 (0%)
Severe inflammation (grade 4+), n (%)	0 (0%)
Biotissue migration, n (%)	0 (0%)
Biotissue-corneal touch, n (%)	0 (0%)
Persistent corneal edema (>1M), n (%)	0 (0%)
Transient post-op IOP elevation, n (%)	9 (7.7%)
Transient hyphema greater than 2 mm present after 1 day postoperatively	3 (2.6%)
Transient hypotony, no visual sequelae	1 (0.8%)
Transient macular edema (phaco surgery-related)	4 (3.4%)
Zonular dehiscence during phaco surgery	1 (0.8%)

Abbreviations: BCVA, Best Corrected Visual Acuity; IOP, Intra-Ocular Pressure.

Conclusion

- Ab-interno cyclodialysis followed by scleral allograft reinforcement when combined with phacoemulsification yielded a robust IOP lowering effect and significant reduction in medications through 12 months of follow-up with a favorable safety profile.

References

- Ianchulev T. et al. Biotissue stent for suprachoroidal outflow in open-angle glaucoma patients: surgical procedure and first clinical results of an aqueous drainage biostent. Br J Ophthalmol. 2024
- De Francesco T, Ianchulev T, Rhee DJ, Gentile RC, Pasquale LR, Ahmed IKK. The Evolving Surgical Paradigm of Scleral Allograft Bio-Tissue Use in Ophthalmic Surgery: Techniques and Clinical Indications for Ab-Externo and Ab-Interno Scleral Reinforcement. Clin Ophthalmol. 2024