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Navigating the Intersection of Dry Eye Disease and Other Ocular Conditions

John D. Sheppard, MD, MMSc

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# AAO 2023: Suprachoroidal outflow enhancement without implantable hardware: surgical technique and clinical results of a novel supraciliary MIGS

November 5, 2023

By Lynda Charters; reviewed by Tsoncho Ianchulev, MD, MPH

News Article



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*Investigators found that ab-interno implantation of a supraciliary allograft bio-tissue successfully reduced intraocular pressure with comparable safety to other minimally invasive glaucoma surgical procedures*

Tsoncho (Sean) Ianchulev, MD, MPH, and colleagues reported on a new micro-interventional technique to enhance suprachoroidal outflow in patients with glaucoma at the American Academy of Ophthalmology annual meeting in San Francisco, California.



Researchers reported on a new micro-interventional technique to enhance suprachoroidal outflow in patients with glaucoma at the American Academy of Ophthalmology annual meeting. Image credit: ©romaset – stock.adobe.com

They found that ab-interno implantation of a supraciliary allograft bio-tissue successfully reduced intraocular pressure (IOP) with comparable safety to other minimally invasive glaucoma surgical (MIGS) procedures. Dr Ianchulev is Professor, Department of Ophthalmology, Icahn School of Medicine at Mount Sinai, and Director, Ophthalmic Innovation and Technology Program, New York Eye and Ear Infirmary of Mount Sinai and inventor of the technology.

In this project, the researchers evaluated a new microinterventional technique for suprachoroidal outflow enhancement where no implantable hardware is used but only scaffolded bio-tissue from modified scleral allograft for supraciliary cleft reinforcement. Following the implantation, the changes in the patients' IOP and the number of medications used were monitored from baseline out to 12 months.

The researchers reported that the procedure achieved significant and sustained IOP lowering after a combined cataract and supraciliary outflow intervention in 45 subjects through 12 months of follow-up. The safety profile of the device was similar to that of other trabecular MIGS devices. The bio-conforming allograft tissue and the lack of exogenous implantable hardware material are also important factors for endothelial health and safety.

A second study and abstract by Iqbal Ahmed et al. reported on the surgical feasibility and clinical outcomes of dual outflow ab-interno MIGS intervention with combined supraciliary bio-stenting and trabeculohexis goniotomy using a new super-elastic memory-shaped Nitinol device (T-Rex, Iantrek, Inc) designed for continuous guided gonio-intervention. The combined dual outflow MIGS procedure was well tolerated and with good surgical results in the setting of cataract surgery.

Co-authors in the clinical studies included Iqbal K Ahmed, MD; Ernesto A. Calvo MD; Gautam Kamthan, MD; Farrell C. Tyson, II, MD, Arsham Sheybani, MD; Lautaro Vero, MD; and Sean Ianchulev, MD, MPH.

## References

1. Sean Ianchulev, MD, MPH; Iqbal K Ahmed, MD; et al. Suprachoroidal Outflow Enhancement Without Implantable Hardware: MIGS Surgical Technique and Clinical Results on a Novel Supraciliary Intervention. Paper presented at: American Academy of Ophthalmology, 3-6 November, 2023; San Francisco, California, United States of America.



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