

XEN63 Gel Stent Implantation for Secondary Refractory Glaucoma in Fuchs Uveitis Syndrome: A Case Series

Carlo De Rosa¹, Simeon Harrow¹, Husam Alhuwaish¹, Liberatina De Martino², Pasquale De Rosa²

¹Royal Cornwall Hospitals NHS Trust

²Department of Ophthalmology, A.Cardarelli Hospital, Naples, Italy

Background

- Fuchs uveitis syndrome (FUS) is a chronic, low-grade anterior uveitis often complicated by cataract and secondary glaucoma¹.
- Secondary glaucoma is a vision threatening complication, difficult to control with only medical therapy¹.
- Traditional filtering surgery and drainage devices may have limited long term success due to postoperative fibrosis where inflammation may compromise outcomes².
- The XEN Gel Stent offers an ab interno subconjunctival filtration strategy².

Aims

- To report the 12-month outcome and safety of ab interno XEN63 gel stent implantation in two pseudophakic patients with secondary refractory glaucoma associated with Fuchs uveitis syndrome.

Methods

- Retrospective observational case series from December 2022 to January 2023; two patients with medically uncontrolled intraocular pressure (IOP) despite maximum topical therapy over a one-year period.
- XEN63 gel stent implantation was performed by Dr Pasquale De Rosa.

Results

- Reduction in IOP was observed in both cases from day 1 postoperatively.
- A well-formed superonasal bleb was present in both patients.
- No intraoperative or postoperative complications occurred.
- Both patients remained medication-free at 12-month follow-up.

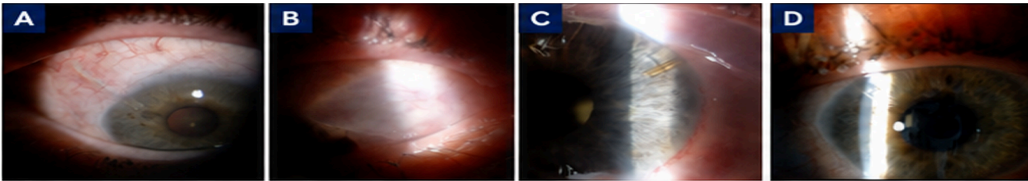
Case	Patient	Eye	Baseline IOP (mmHg)	Baseline BCVA (logMAR)	Key findings	Day-1 IOP (mmHg)	12-month outcome
Case I	49-year-old male, pseudophakic	Right eye	38 mmHg	0.15 logMAR	Diffuse iris atrophy, fine keratic precipitates, mild optic nerve excavation	10 mmHg	IOP controlled without medication; BCVA improved to 0.09 logMAR; no complications
Case II	64-year-old female, pseudophakic	Left eye	35 mmHg	1.0 logMAR	Diffuse iris atrophy, fine keratic precipitates, severe optic nerve excavation	12 mmHg	IOP controlled without medication; BCVA stable at 1.0 logMAR; no complications

Discussion

- Glaucoma in FUS is challenging due to inadequate response to medical treatment and conventional surgery is often limited by fibrosis and inflammatory response^{1,2}.
- XEN63 offers a larger lumen compared to XEN45, which may reduce the risk of occlusion by inflammatory debris whilst maintaining a minimally invasive ab interno approach².
- These two cases demonstrate XEN63 gel stent implantation provides rapid IOP reduction, durable bleb function and medication independence without postoperative inflammatory complications.
- These findings suggest the benefit of XEN63 as a minimally invasive glaucoma surgery technique in selected cases of uveitic glaucoma.

Conclusion

- XEN63 gel stent implantation via an ab interno approach demonstrated markedly reduced IOP in two cases of refractory glaucoma associated with FUS.
- No complications were observed and no postoperative procedures were required.
- Further prospective studies are required to confirm these promising findings.



A. Preoperative slit-lamp image showing iris atrophy and fine keratic precipitates in FUS. B. Functioning superonasal bleb after XEN63 implantation. C. XEN63 gel stent in situ after ab interno implantation. D. Additional slit-lamp view highlighting FUS-related anterior segment changes.

References

- Nilforushan N, Yadgari M, Alemzadeh SA. Surgical management of glaucoma in Fuchs uveitis syndrome: Trabeculectomy or Ahmed glaucoma valve. Journal of Current Ophthalmology. 2019 Mar 1;31(1):24-30.
- Evers C, Anton A, Böhringer D, Kallee S, Keye P, Neß T, Philippin H, Reinhard T, Lübke J. XEN®-45 implantation for refractory uveitic glaucoma. Graefes Archive for Clinical and Experimental Ophthalmology. 2024 Mar;262(3):937-48.

Disclosures

- Written informed consent was obtained from both patients for publication and use of images.
- No conflicts of interest.