Delayed Spontaneous On-axis Lens Rotation and Accelerated Endothelial Failure Following Yamane Intrascleral Haptic Lens Fixation (ISHF): A Case Report

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Highlights and Summary

- **Delayed** (7-week) 90° on-axis IOL rotation after Yamane ISHF
- Rapid corneal decompensation and endothelial cell loss (>50%) **without lens–cornea touch**
- Vision preserved with timely intervention

Sudden **vision loss** post ISHF requires **urgent evaluation**.

Introduction

- Sutureless Intrascleral haptic fixation (ISHF) is widely used for secondary IOL implantation
- Early IOL rotation has been reported within 1 month
- However, late rotation and endothelial decompensation remain poorly characterised

Aim

We report a case of delayed spontaneous IOL rotation with rapid endothelial failure, despite absence of lens-cornea touch

Case Vignette

- 69M
- Left traumatic cataract (2015) → Sulcus IOL + 2x Capsular Tension Rings (CTR)
- 9 years later: monocular diplopia + blurred vision → subluxed IOL
- Underwent pars plana vitrectomy (PPV) with Yamane ISHF of existing Sensar AR40 IOL. CTRs left in situ.
- Good visual recovery 3 weeks post-op

Baseline Status

- BCVA 6/6, refraction -0.50 / -1.25 x 125
- Corneal CCT: 621µm, Endothelium **2653 cells/mm²**, CV 46%, Hex 37%

Timeline

2015 Trauma Sulcus IOL + CTR x2 → 2024 Subluxed IOL → Yamane ISHF ↓ BCVA 6/6 → 3 Weeks Stable → 7 Weeks **Rotation** + Corneal Oedema + Endothelial Compromise → Explant + Aphakia → 3 Months Secondary Implantation with Gore-Tex SFIOL → Final Stable VA 6/8.5 PH

The Complication

- 7 weeks post-op, developed sudden BOV
- Examination revealed corneal decompensation

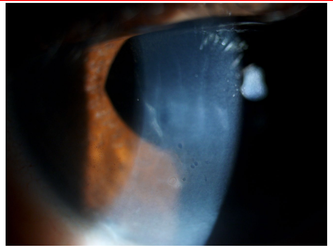

Figure 1. Corneal stromal oedema and epithelial bullae 7 weeks post-op

The Findings

- 90-degree on-axis rotation of IOL optic
- Haptics remained securely attached to sclera
- AS-OCT: **no direct contact** between IOL and cornea
- Specular: **marked deterioration** of ECC to **~1138/mm²**
- No AC inflammation or lens mobility

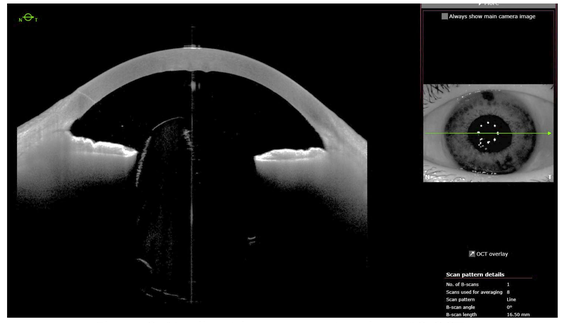

Figure 2. No direct lens-cornea touch on AS-OCT

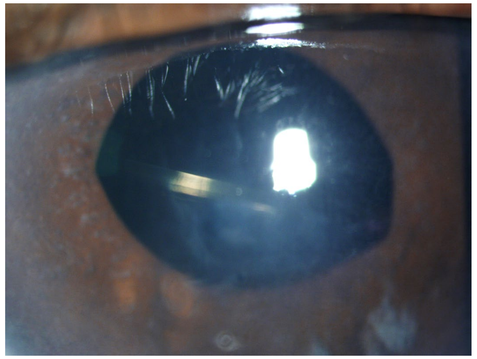

Figure 3. IOL Rotated 90 degrees

The Management

- Urgent vitrectomy + IOL removal
- Haptics (found to be secure intrasclerally) removed together with 2x CTRs
- Left aphakic
- 2 weeks post-removal, CCT was 702µm with persistent bullae

The Rehabilitation

- Given steroid drops
- 3 months post-removal, cornea had cleared

The Next Move

- Secondary lens implanted with sclerostomies and Gore-Tex Sutures
- Developed Irvine-Gass syndrome → treated successfully with Nevanec
- Sutures and IOL remained intact, no further issues

The Outcome

- Corneal oedema continued to clear
- **Avoided corneal transplant**
- Latest review: **VA** 6/20 Unaided, **6/8.5** Pinhole
- Steroids continue to be downtitrated
- ECC Trend: 2653 (pre) > 1138 (post) > 1105 (stable)
- **Patient satisfied**

Discussion

- The "Rotisserie effect" of ISHF lenses can occur spontaneously even beyond 1 month
- Such rotation can precipitate rapid corneal decompensation **without** direct lens-corneal touch
- Possible Causes:
  - Torsional instability of haptic despite fixation
  - Altered aqueous dynamics
  - Interaction with retained CTRs
  - Micro-movement causing endothelial shear stress

Conclusion

- IOL rotation can occur **late** in ISHF
- Sudden visual changes require **urgent** review
- **Endothelial failure can occur without direct lens-cornea contact.**
- **Early** intervention may limit endothelial damage
- **Caution** in complex eyes (trauma, retained CTRs)

References: Safran JP, Safran SG. Am J Ophthalmol Case Rep. 2023

Disclosures: FAM P: None. S. SUBRAMANI: None