

Fixation of Multiple Capsular Tension Segments Using the Canabrava No-Peritomy Technique in Severe Traumatic Zonulysis

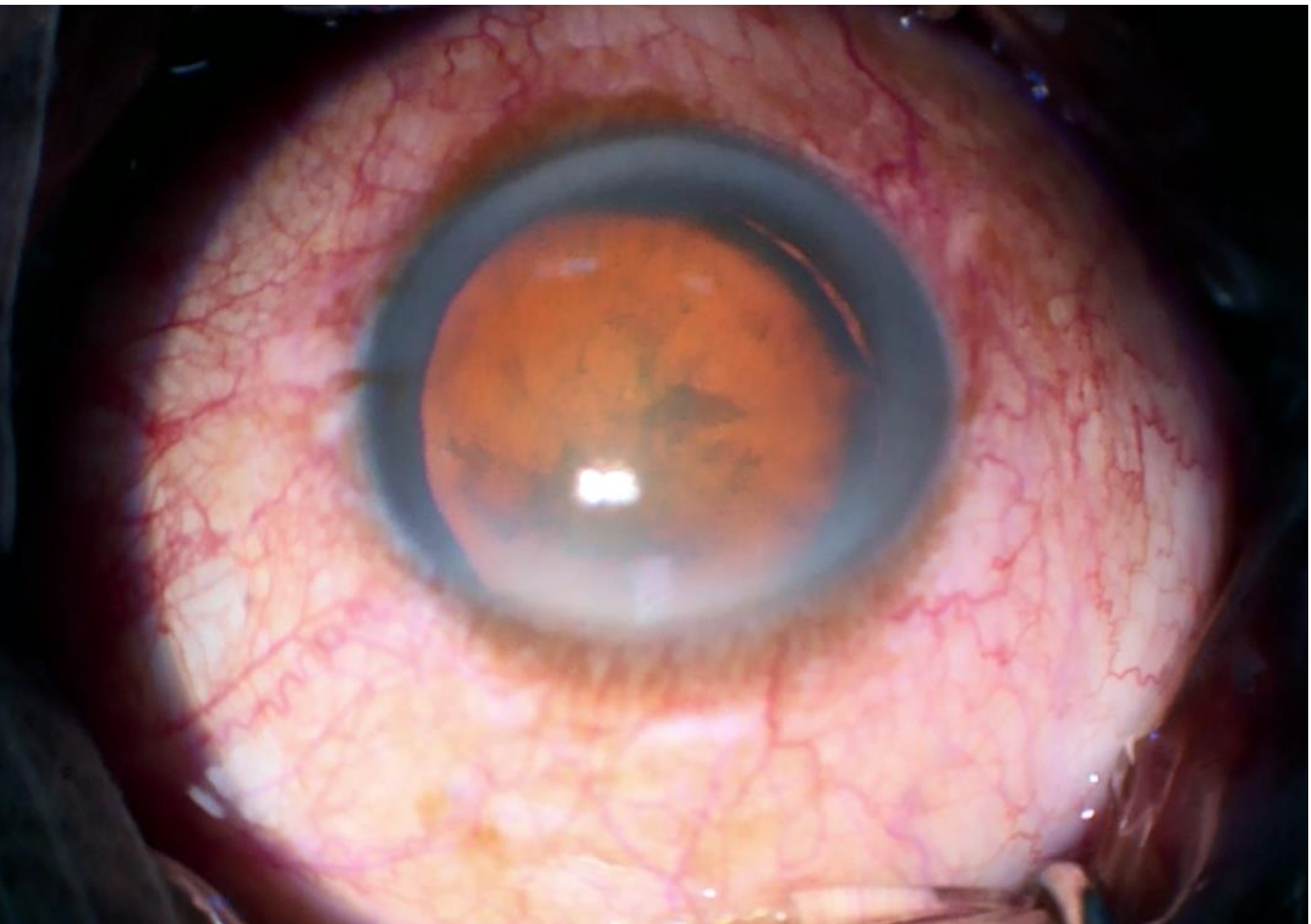
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THE CANABRAVA NO-PERITOMY TECHNIQUE

- Double-flanged method: monofilament suture cauterised at both ends to secure intraocular lens (IOL) or capsular tension segments (CTS) to the sclera
- Flanges are buried within scleral tunnels, eliminating the need for exposed sutures or peritomies
- Useful in cases of zonular weakness (eg. from blunt ocular trauma) by fixing CTS to the sclera

CASE REPORT

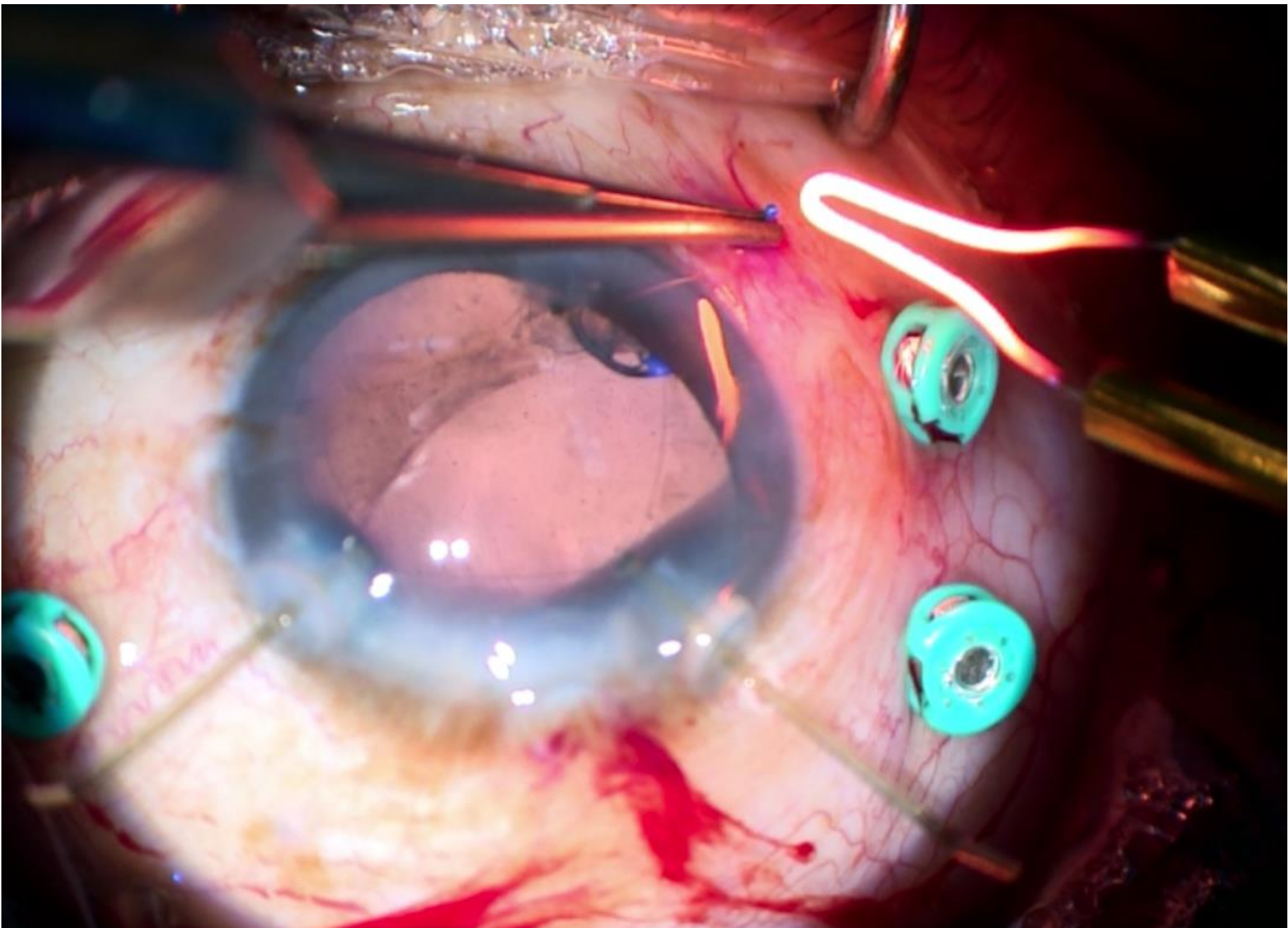
We describe a case of a traumatic cataract with more than 270 degrees of zonulysis in which three CTSs were implanted using the Canabrava technique, without any conjunctival peritomies. This enabled preservation of the capsular bag and facilitated in-the-bag IOL implantation, achieving comfort and a good visual outcome within weeks.



Zonular loss evident pre-operatively

BACKGROUND

- 54-year-old Chinese man with blurring of vision in his right eye following blunt trauma to the eye eight months prior,.
- VA: counting fingers closely (unaided), 6/60 (pinhole)
- IOP 15 mmHg
- Slit-lamp findings of the right eye:
 - traumatic mydriasis
 - cataract with notable phacodonesis
 - vitreous prolapse into the anterior chamber.
- Biometric measurements:
 - Anterior chamber depth: 2.90 mm (RE) vs 3.20 mm (LE)
 - Lens thickness: 4.75 mm (RE) | 4.75 mm (LE)
- Optical coherence tomography: RE epiretinal membrane



Creation of flanges using cautery in the Canabrava technique

METHODS

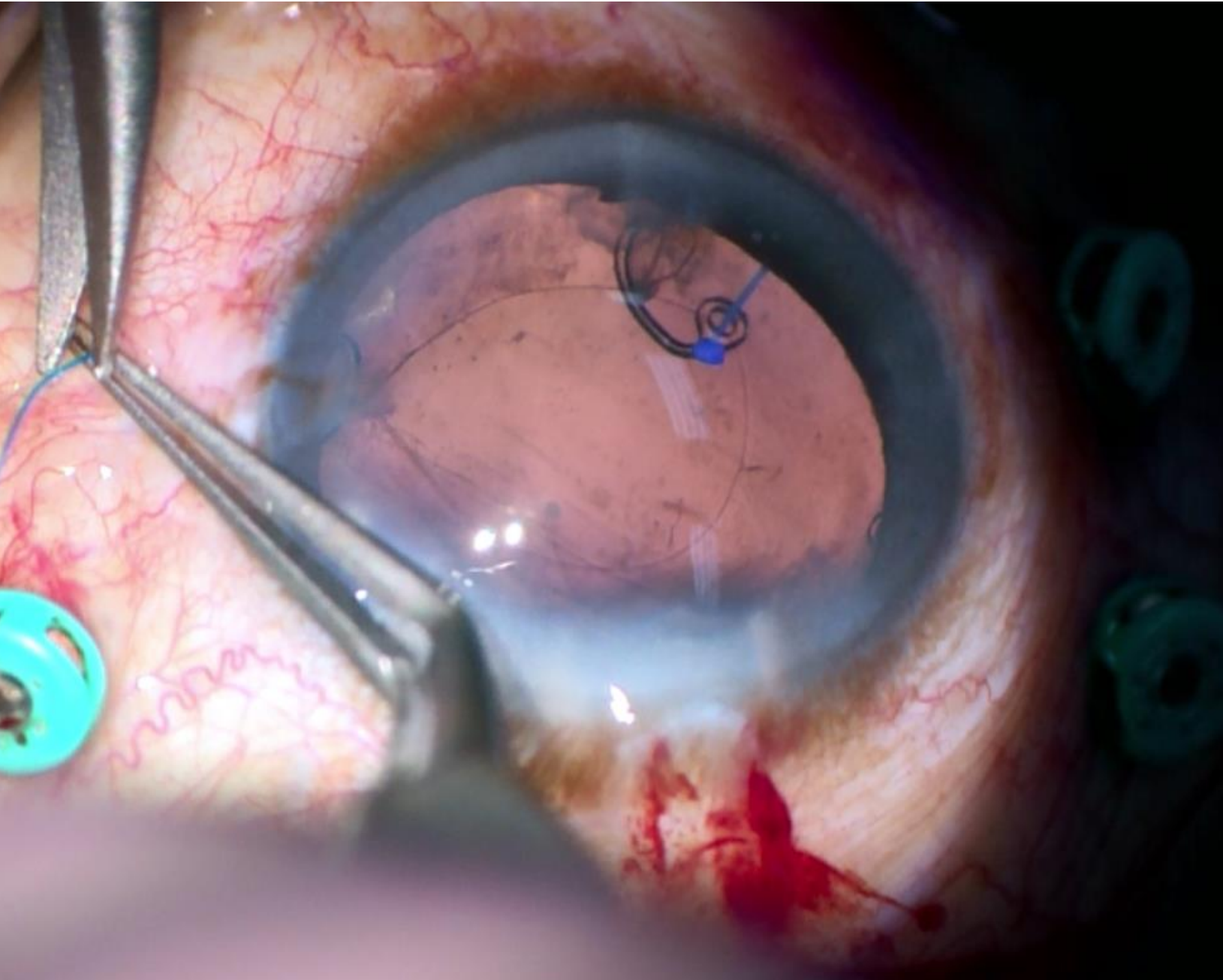
- Phacoemulsification was performed with the assistance of 4 capsular hooks to provide intraoperative capsular support
- The capsular bag was stabilised using **three Ahmed CTSs** using the Canabrava double-flanged technique with 6-0 polypropylene sutures. This enabled secure circumferential support of the bag without conjunctival dissection. Three CTSs were used sequentially due to progressive zonular loss intraoperatively when the first, then second CTS was secured.
- A standard posterior chamber IOL was implanted in the capsular bag
- A complete pars plana vitrectomy with epiretinal and inner limiting membrane peel was performed concurrently due to the presence of the epiretinal membrane pre-operatively.

OUTCOMES

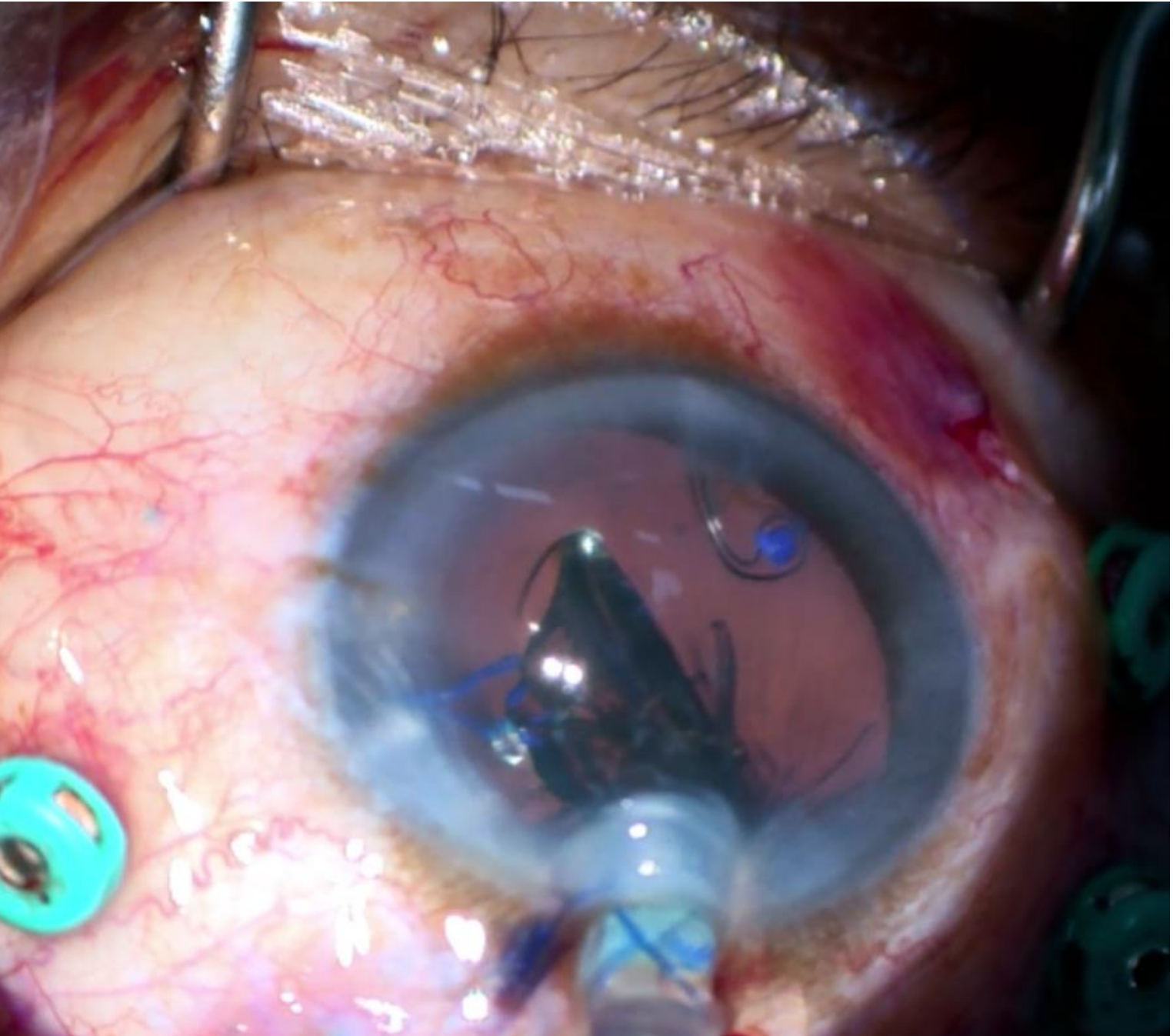
- 6 weeks post-op: the patient was satisfied with a best-corrected visual acuity of 6/8.6, N5, and a manifest refraction of +1.50 / -0.75 x 090
- 3 months post-op: RE remained stable and comfortable with no evidence of inflammation or cystoid macular oedema.

CONCLUSION

This is the first reported case demonstrating the simultaneous implantation of three or more CTS using the transscleral, transconjunctival Canabrava technique. By avoiding multiple localised or large peritomies, this approach improves patient comfort and speed of recovery, reduces surgical time, and reduces and preserves conjunctival integrity. This technique represents a valuable addition to the surgical armamentarium for managing complex traumatic cataracts with significant zonular compromise.



CTS inside the eye with flanged end of prolene suture



Insertion of IOL with 3 CTS in situ



Post-operative photo, prolene bulb flush with the sclera