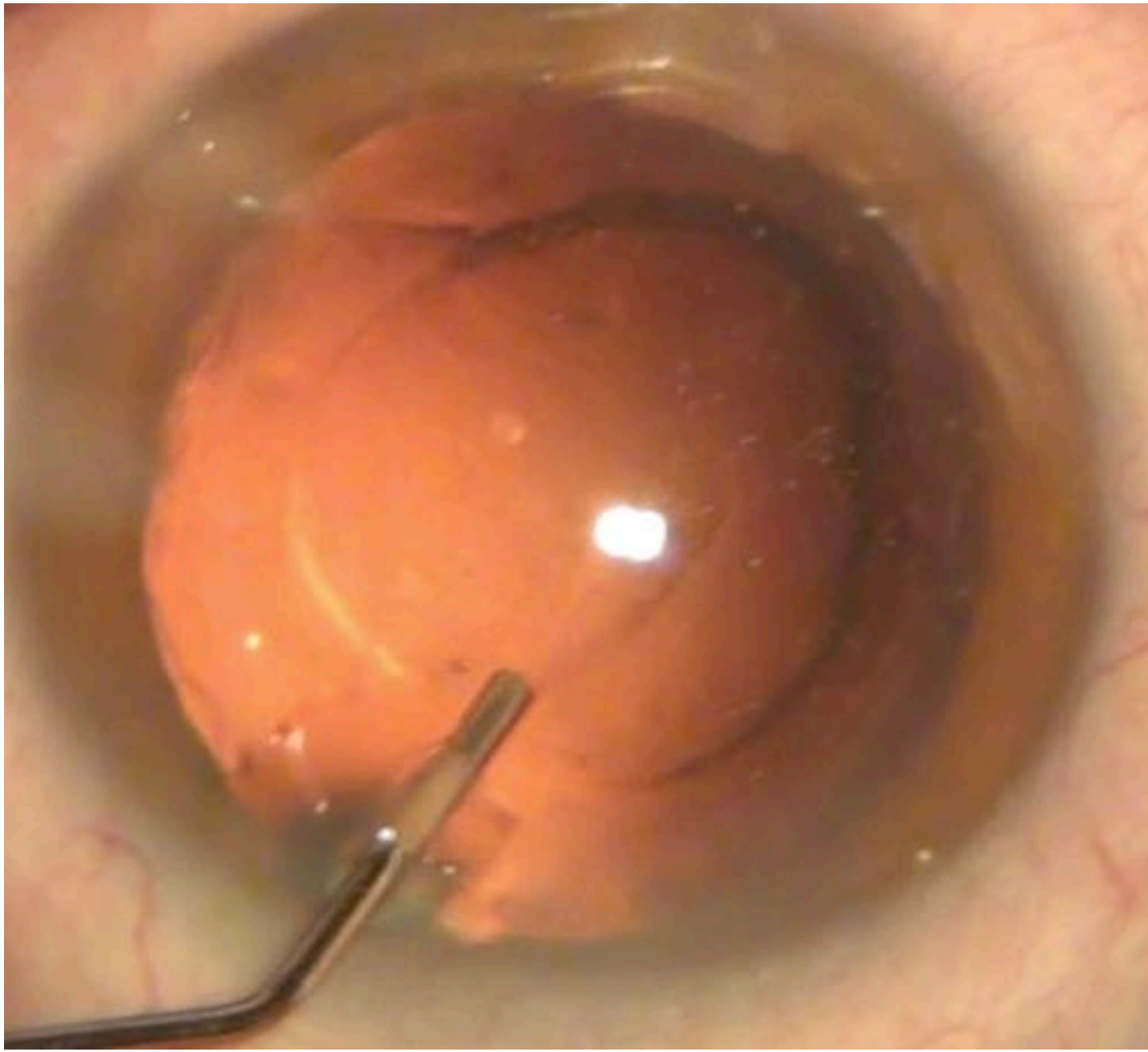
# Safety of Decreased OVD Volume Using a Balanced Salt Solution Bubble During IOL Insertion

Mark Edmund Johnston MD FRCSC
Nebraska Laser Eye Associates
Omaha, NE
www.nebraskaeye.com

No financial interest

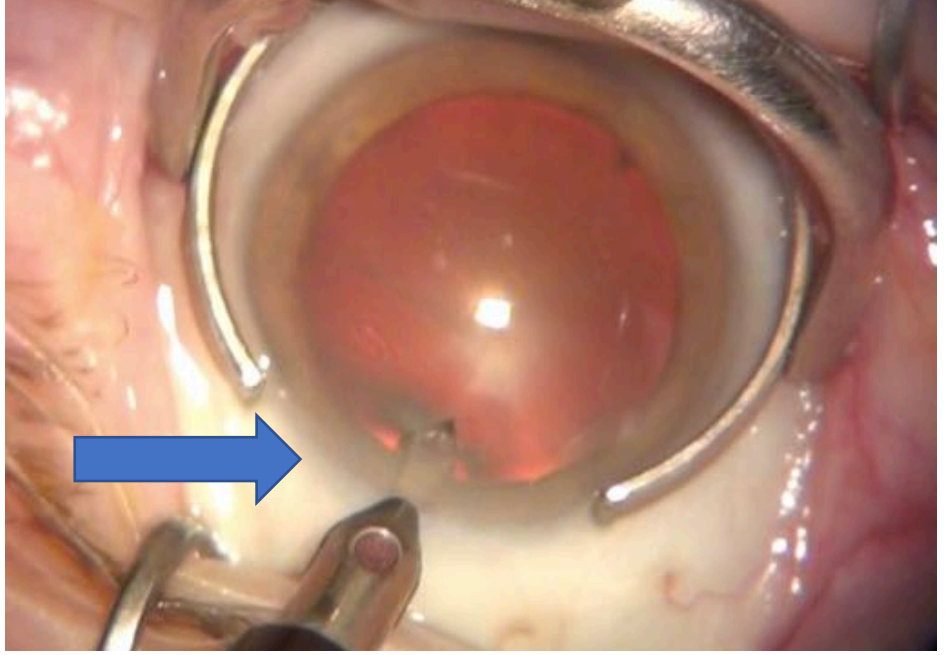
# Purpose

- To assess and compare the safety and efficacy of a simple technique which decreases the use of viscoelastic during routine and complex cataract surgery.

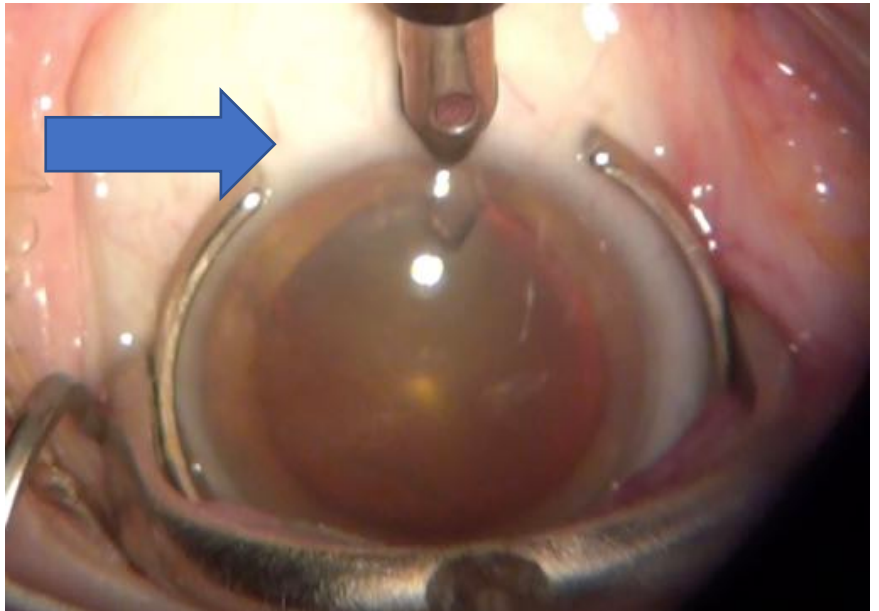


# Methods

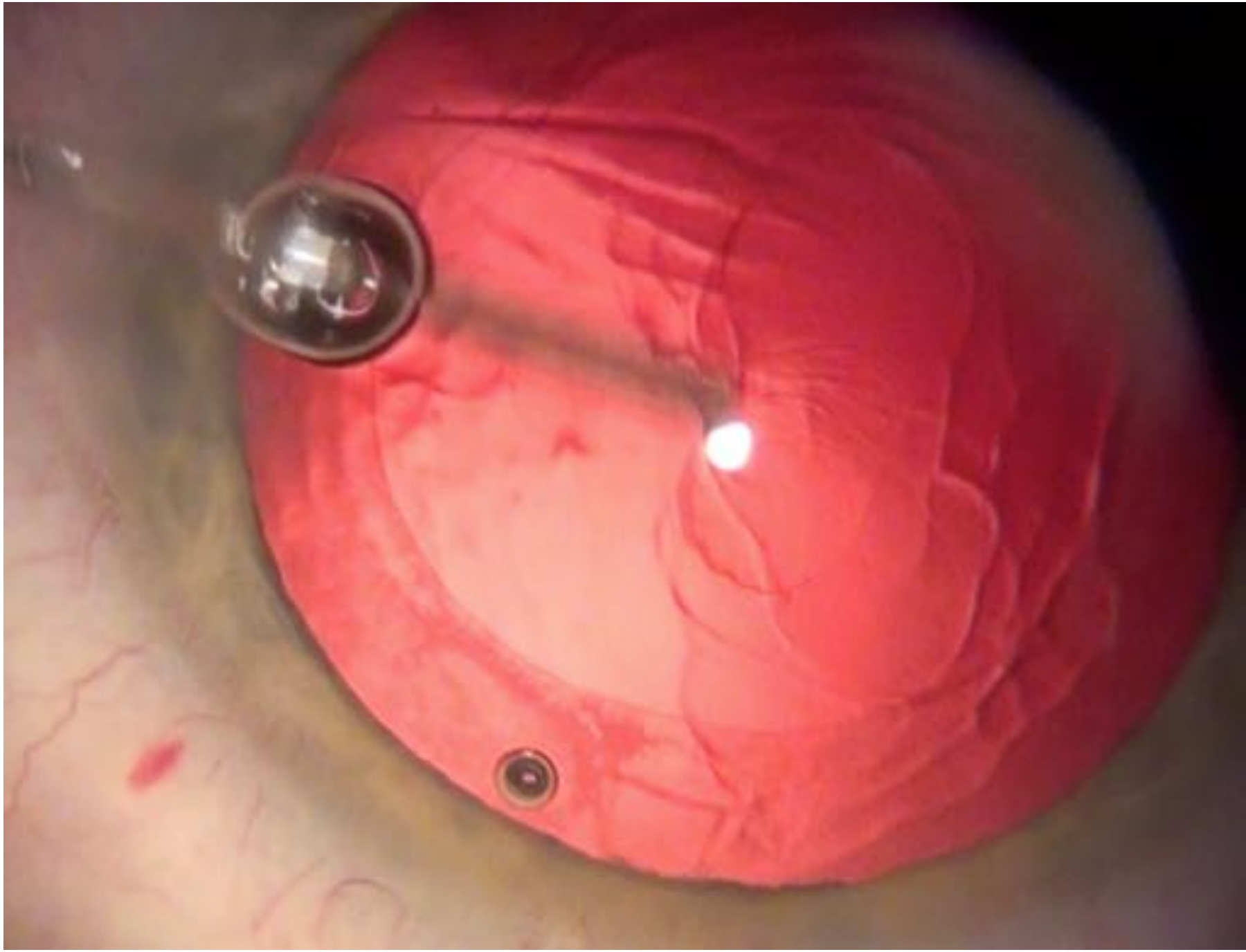
- Sequential cataract surgeries were studied over a pre-determined period.
- No modifications in technique were made during the study.
- A commercial viscoelastic containing Chondroitin and Hyaluronate, in 0.5 ml vials, was used.



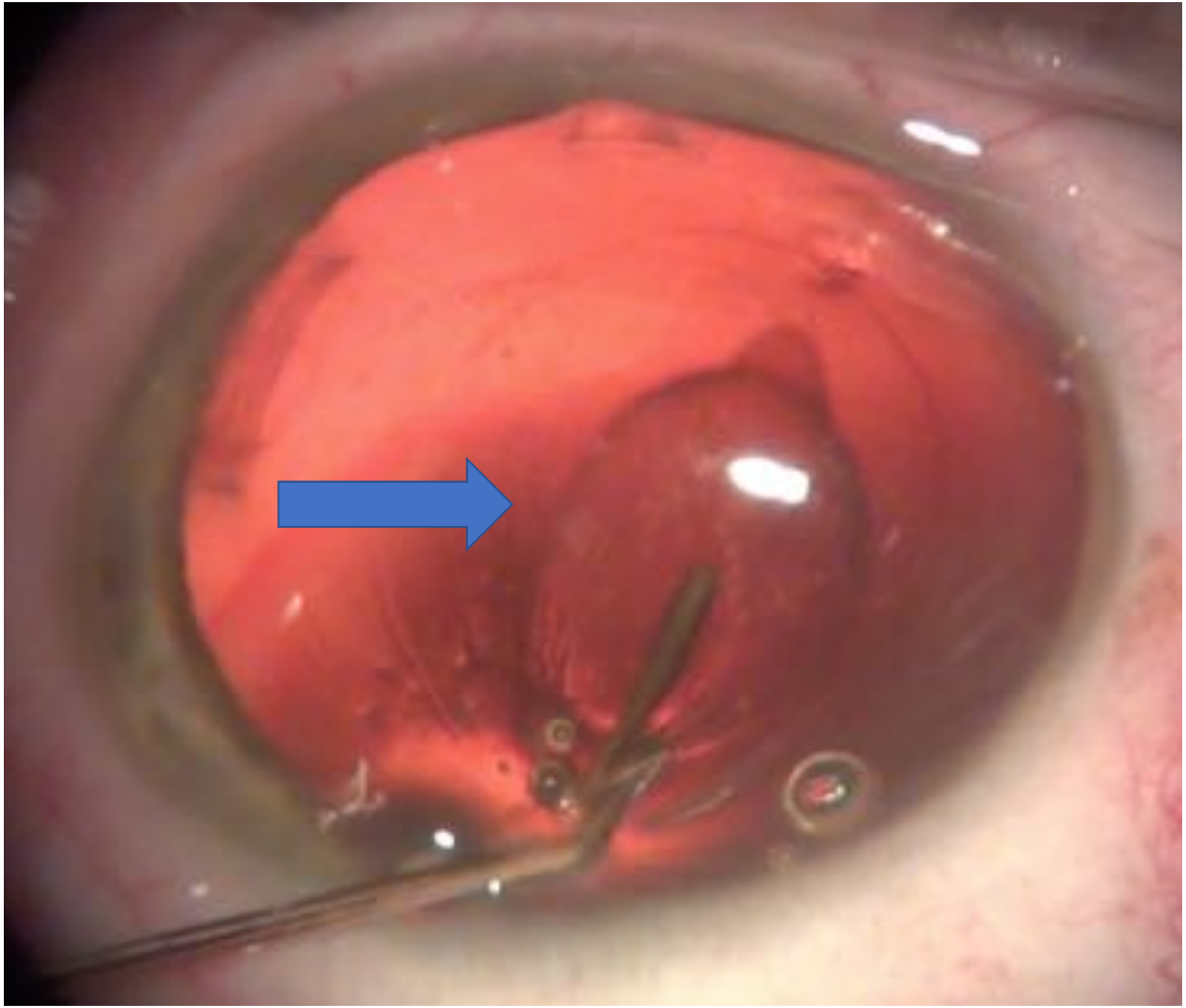
Both superior and inferior side-port incisions were made



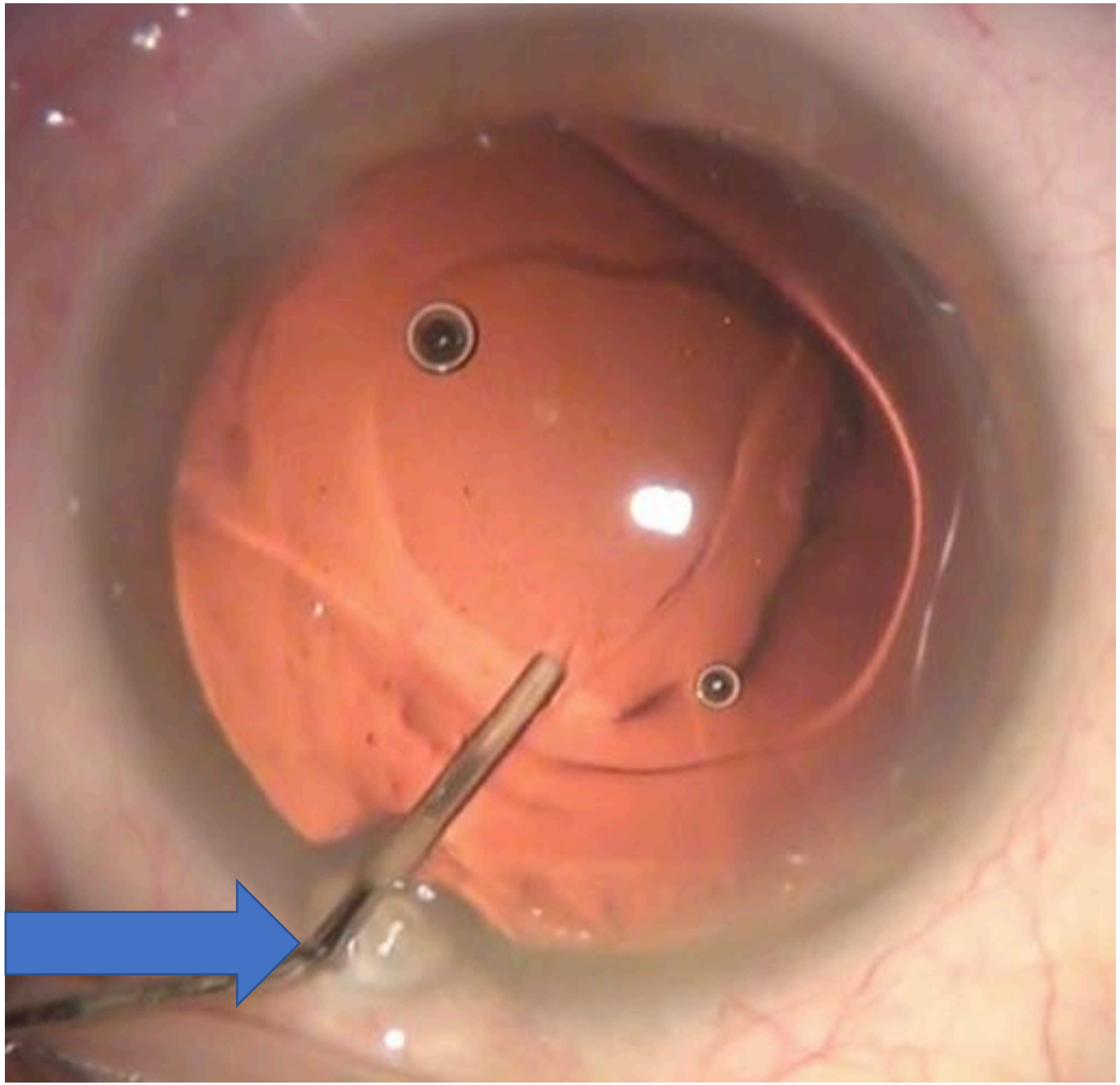
- After removing the cataract, viscoelastic was placed into the anterior chamber through the main incision.



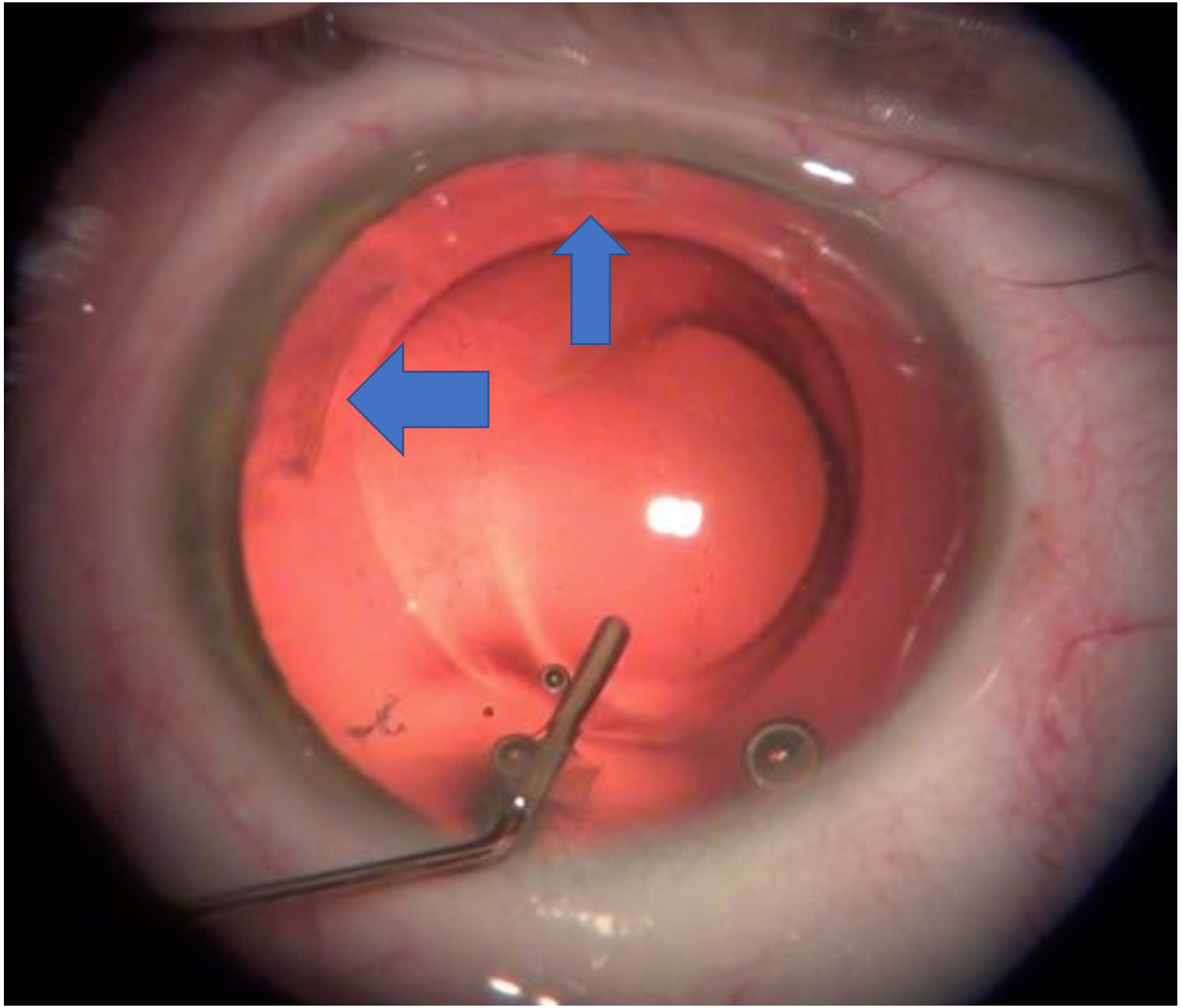
- Using the secondary side-port incision, Balanced Salt Solution (BSS) was slowly inserted into the capsular bag, thus creating a BSS “Bubble” in the central capsular bag.



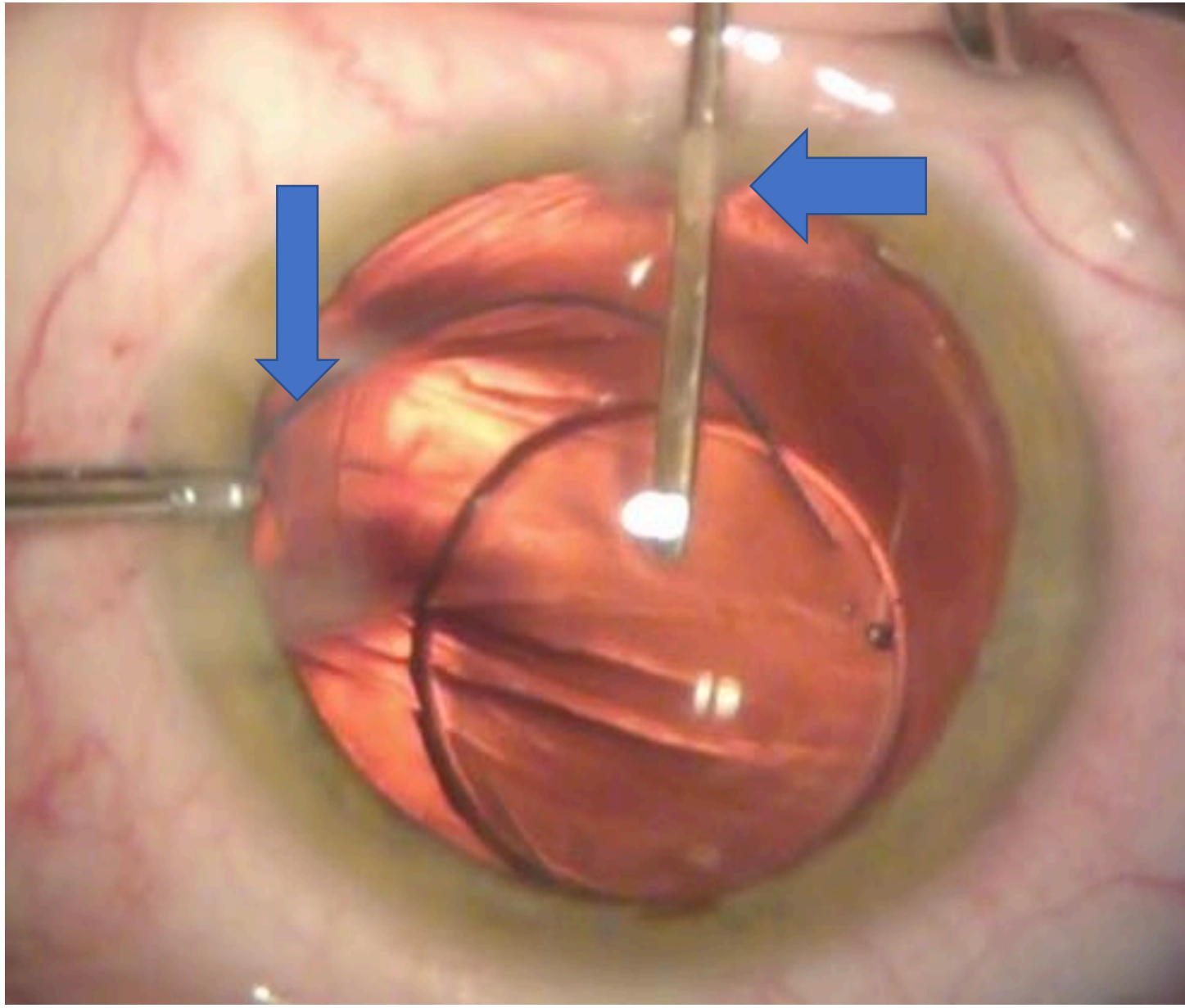
- The BSS and viscoelastic may track along the cannula towards the secondary incision
- Note the viscoelastic at the secondary side-port incision



- This “**Bubble**” **pushes** the Viscoelastic toward the main incision and primary side port incision



- The viscoelastic that is pushed up to the main and primary side-port incisions allows for good control of the chamber during insertion of the intraocular lens.



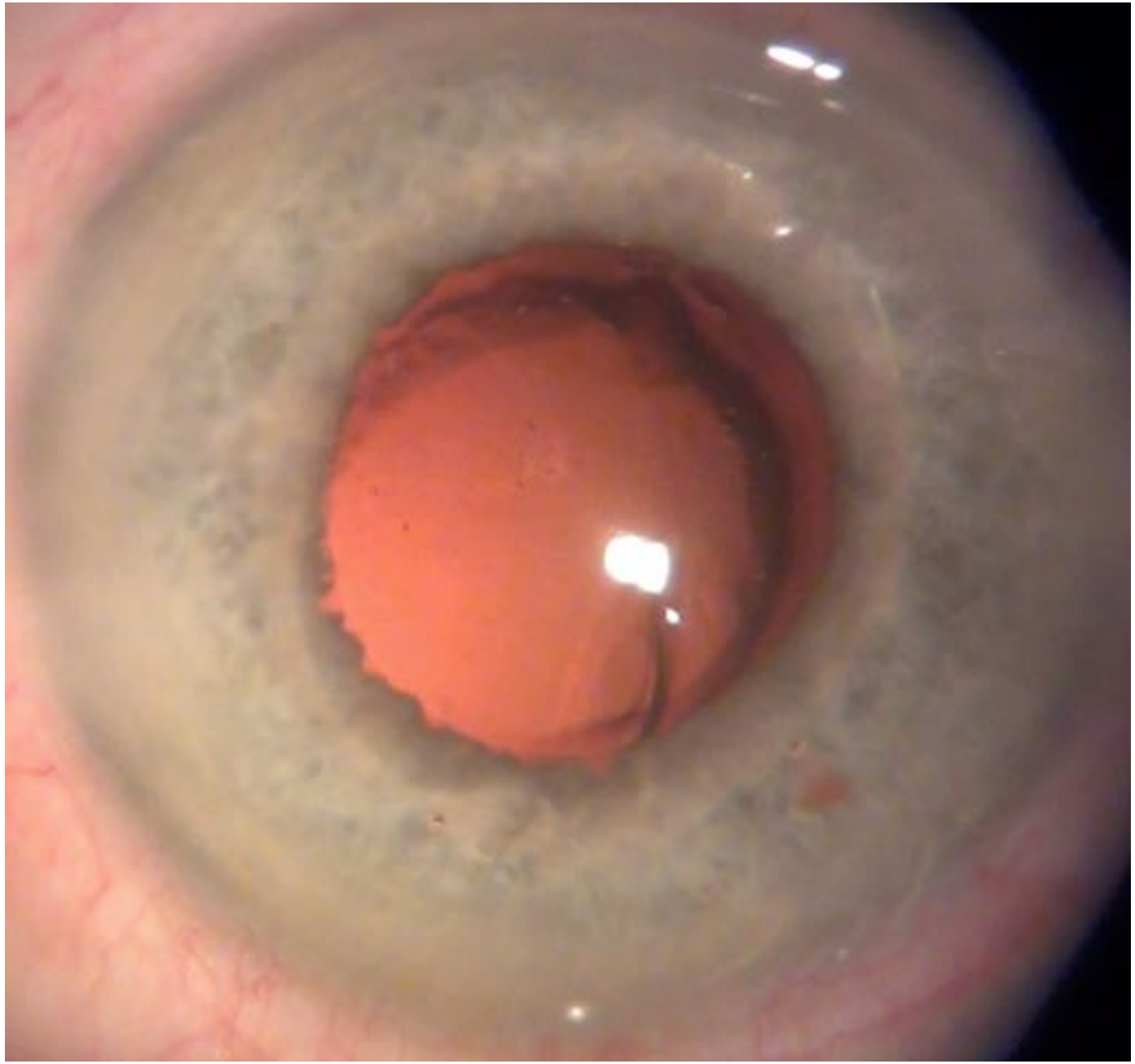
# Results

- A total of 95 eyes were included in the study.
  - Only **one vial** of viscoelastic was used in **67 cases** (70.5 %).
  - For all **16 cases** (16.8 %) in which a **toric** or multifocal lens was inserted, a second vial was used routinely to optimize placement.
- A **second** vial was also used in a further **12 cases** (12.6 %).

- Excluding toric and multifocal lens, indications for using a second vial were
  - 9 men with small pupils and/or floppy iris syndrome.
  - intraoperative aqueous misdirection,
  - anatomically shallow anterior chamber with a small pupil
  - repositioning of a lens loop

# Results

- There were no cases of posterior capsule rupture or significant post-operative complications in any subgroup.



# Conclusion

- A simple surgical technique using a “Bubble” of Balanced Salt Solution during the insertion of an intraocular lens is associated with a safe and controlled decrease in viscoelastic use during both routine and complex cataract surgery.