CHALLENGES IN PHACOEMULSIFICATION OF WHITE CATARACTS

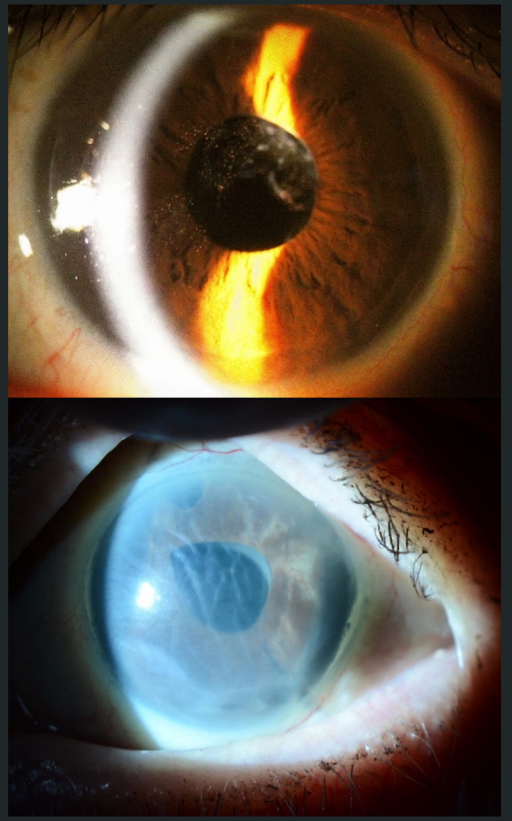
E. Amperiadis, E.Hatzizisis, S.Ntisiou, P.S.Apostolidou, V.Kapourani, E.Psimenidou, S. Tsironi

Department of Ophthalmology, General Hospital G.Papanikolaou, Exochi, Thessaloniki, Greece

There is no conflict of interest

White cataracts present difficulties during surgery with increased risk of complications such as:

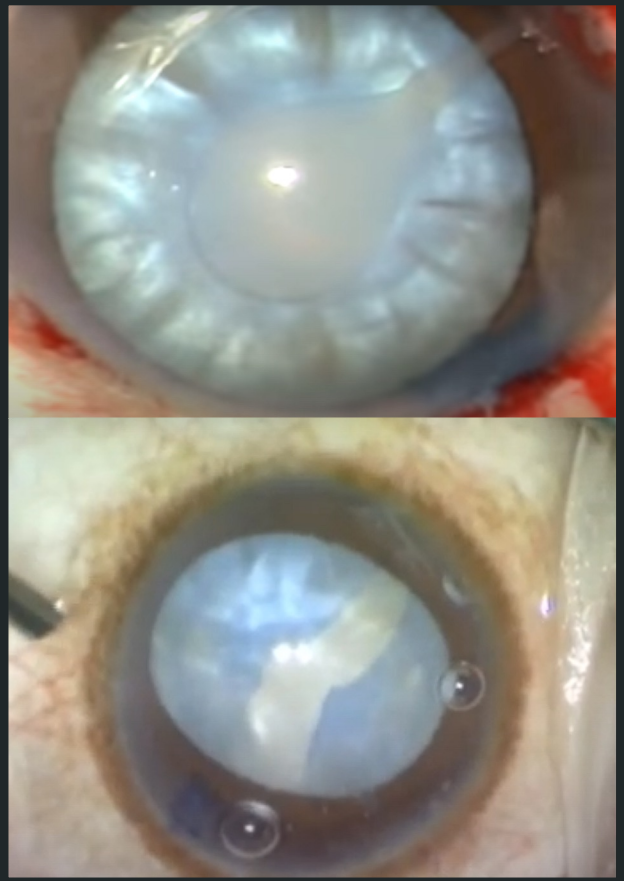
- Posterior capsule rupture
- Vitreous prolapse
- Zonular Rupture
- Retained or dropped nuclear material
- Inability to implant the intraocular lens
- Prolonged surgical time
    - Corneal endothelial damage
    - Increased risk of endophthalmitis



Challenge: Circular Continuous Capsulorhexis (CCC)

Achieving a CCC can be difficult due to:

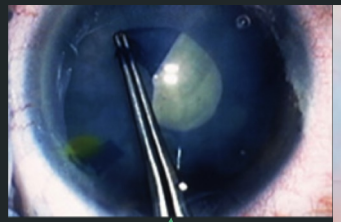
- poor visualization
  - opacification of lens
  - liquified lens cortex leakage
- increased intracapsular tension (might cause capsulorhexis to extend posteriorly, “Argentinian flag”)

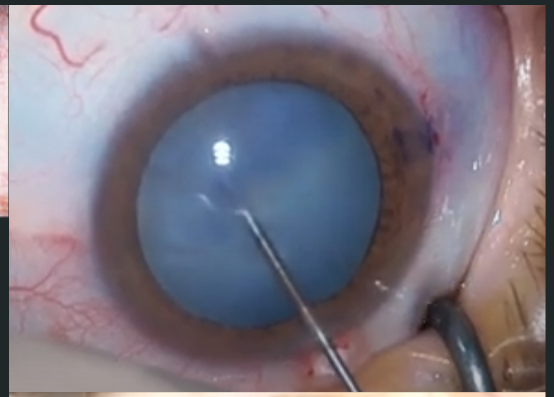


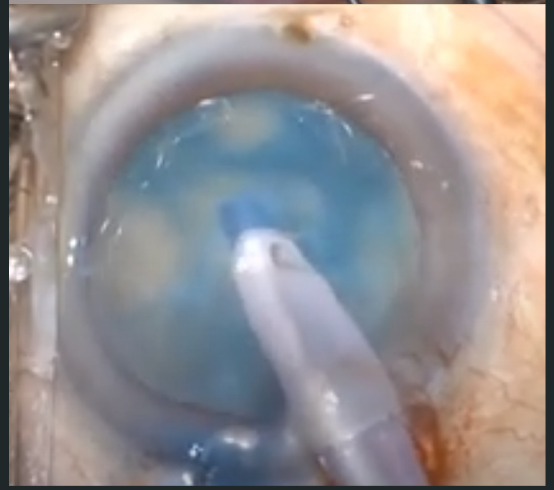
Challenge: Circular Continuous Capsulorhexis

Modifications during surgery:

- Use of Trypan Blue to help visualization
- Anterior capsule puncture and intralenticular space decompression with a needle or cannula
- Or phaco capsulotomy
- Two-staged capsulorhexis





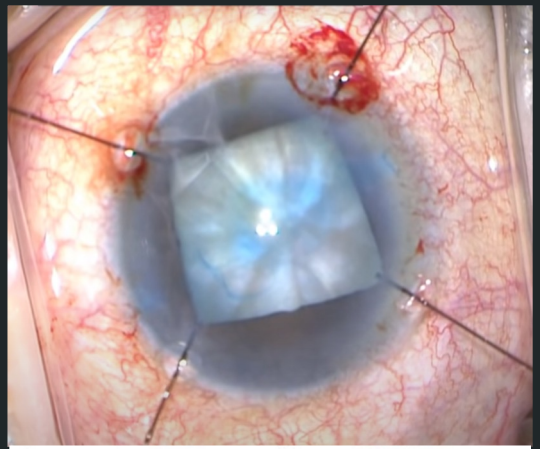


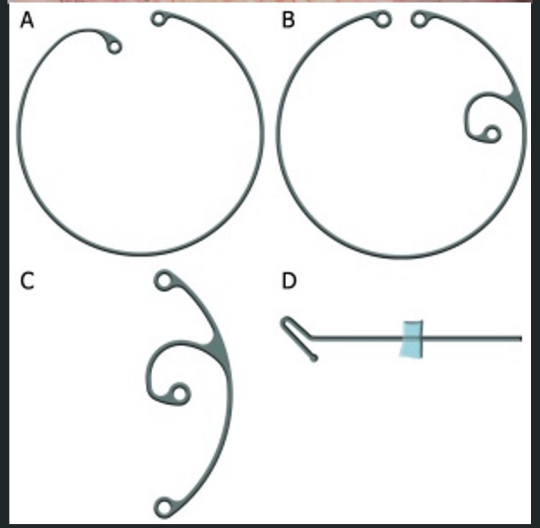
Challenge:

- Poor mydriasis
- Zonular instability
  - Phacodonesis

Modifications during surgery:

- Use of iris hooks
- Use of capsular support devices





A) Capsular tension ring B) Modified capsular tension ring
C) Capsular tension segment D) Capsular retention hook

Challenge: Phacoemulsification

White cataracts require higher ultrasound energy with increased risk of corneal endothelial damage, posterior capsule rupture

Modifications during surgery:

- Abundant use of viscoelastic
- Preferred techniques using less ultrasound energy and lens rotation (e.g. phaco chop vs divide and conquer)