Manual Small Incision Cataract Surgery Complications

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Complications

- Early
- Intra-op
- Early post-op
- Late post-op



Early

- Anesthesia related: lignocaine induced anaphylactic shock
- Block: Retro-bulbar hemorrhage/subconjunctival hemorrhage



Intra-operative

- Tunnel construction: button hole/premature entry
- Paracentesis: descement stripping
- Capsulotomy/capsulorhexsis runaway rhexsis/zonular dialysis
- Hydro-dissection: zonular dialysis
- Nucleus prolapse: endothelial damage/sphincter tears
- Nucleus delivery: iris injury/hyphaema/ intra-op miosis
- Post-capsular tear
- Dropped nucleus



Post-op Complications Early

- 1. Wound gape: ac shallow
- 2. Lid: ptosis
- 3. Corneal edema
- 4. Iris prolapse
- 5. Increase in iop: tass
- 6. Descement detachment
- 7. Hyphaema
- 8. Endophthalmitis



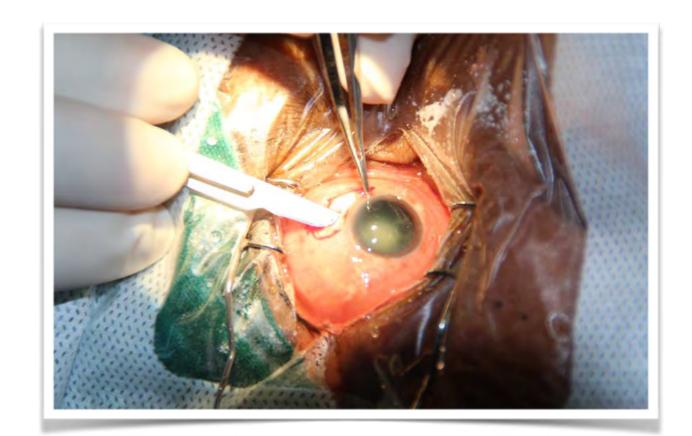
Post-Op Complications Late

- 1. Bullous keratopathy
- 2. Capsular bag: sunset syndrome
- 3. Secondary glaucoma
- 4. Suture related
- 5. Uveitis
- 6. Post-segment: rd

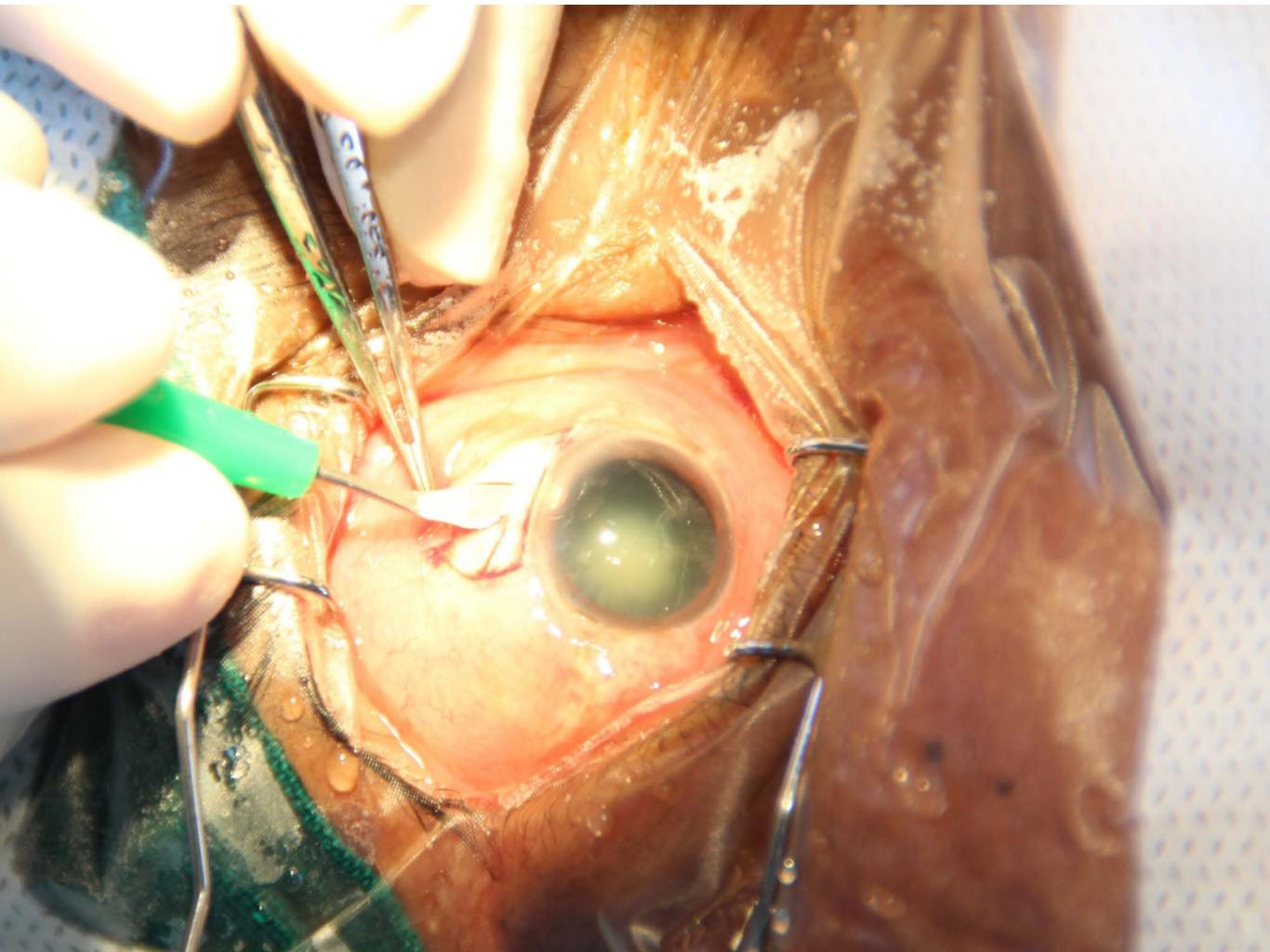


Tunnel Construction

- Approach
- Anterior (button holing): poor self healing/wound leak/astigmatism
- Management: suture & tunnel at another site
- Posterior: premature entry/nucleus delivery difficulty/instrument manipulation is difficult
- Management: suture & ant approach







Descement Stripping

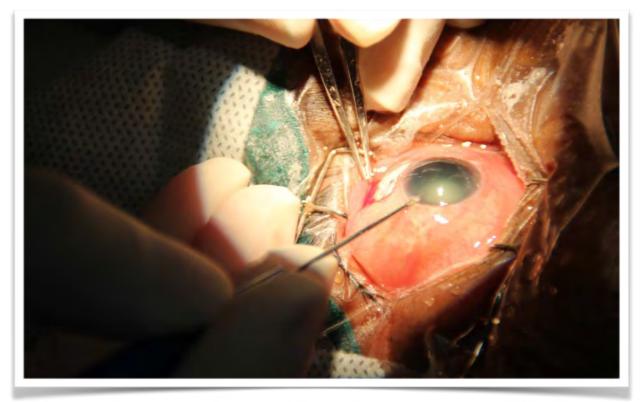
- Instrument manipulation
- Paracentesis
- Fluidics Management
- Air injection at end of surgery





Paracentesis

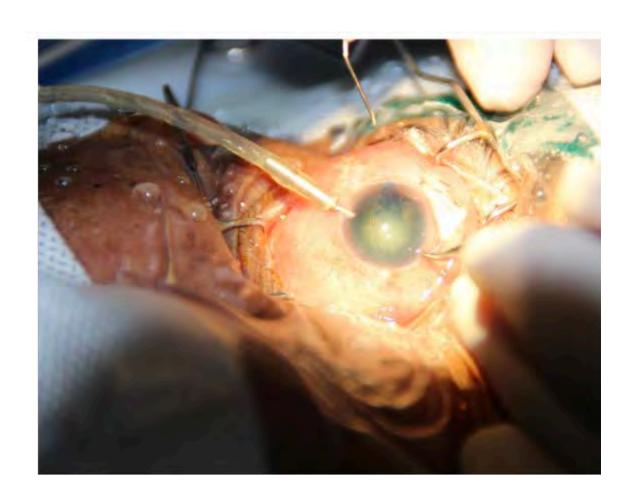
- If too small: difficulty in instrument manipulation/dm stripping
- Too large: AC maintainer will slip/leakage
- Too peripheral: iris prolapse/bleeding
- Too central: difficulty in instrument manipulation/dm stripping
- Management: ideal with a 20 gauge MVR blade





Capsulotomy/Capsulorhexsis

- Peripheral extension
- Run away rhexis: post capsular tear
- Management: pull flap to center/continue in reverse direction/convert to can opener if doing rhexis/relaxing incisions to enlarge or over-ride the rhexis





Hydro-dissection

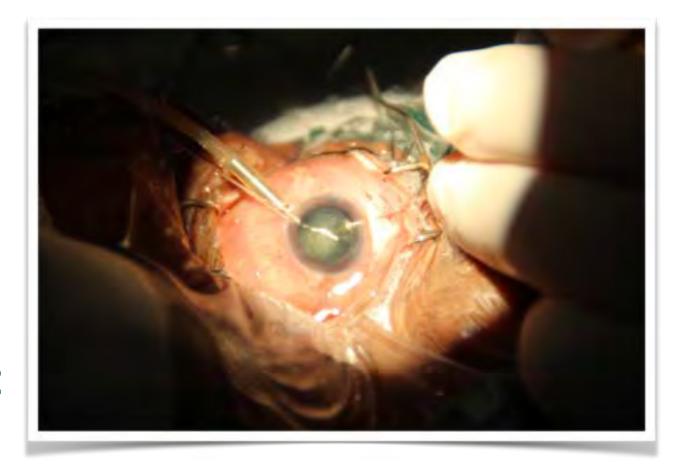
- Incomplete or forceful hydro
- Lead to: inadequate cortical-capsular bag separation/zonular damage/posterior capsular tear/nucleus drop
- Management: gentle hydro again if inadequate/CTR if zonular damage depends on extent





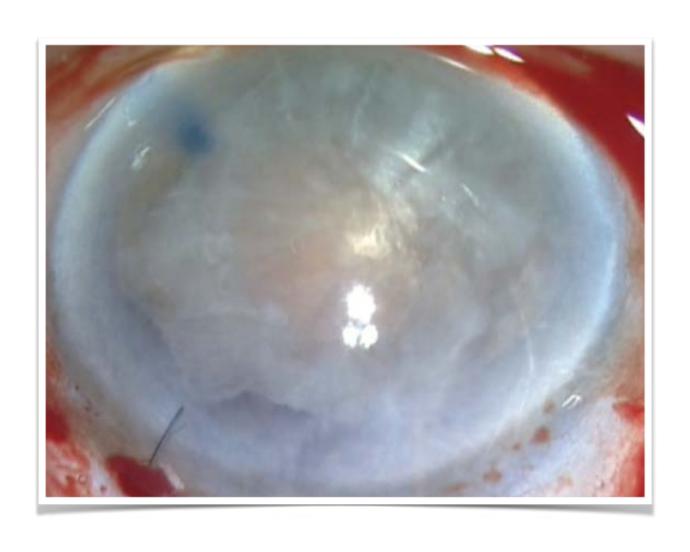
Nucleus Prolapse

- Difficulty to prolapse if small rhexis/ mid-iris synechiae/ soft nucleus/ small pupil/ hard brown nucleus
- Complications: iridodialysis/ zonular dialysis/ PCR/ endothelial damage due to nucleus or instrument touch
- Points to note: pupillary size/ cataract density/ zonule integrity/ size of tunnel





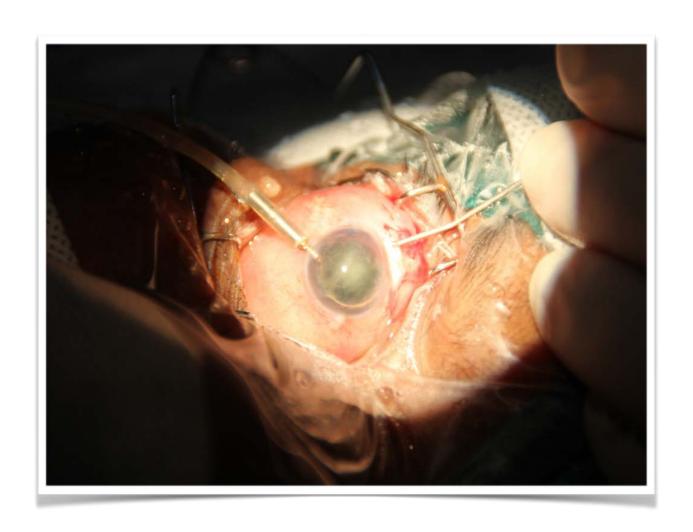
Endothelial Damage



- Nucleus touch
- Instrument touch
- Vitreous prolapse
- Sudden increase in IOP
- Management: use visco-elastics/ avoid fluidics/ mannitol in case of increase IOP



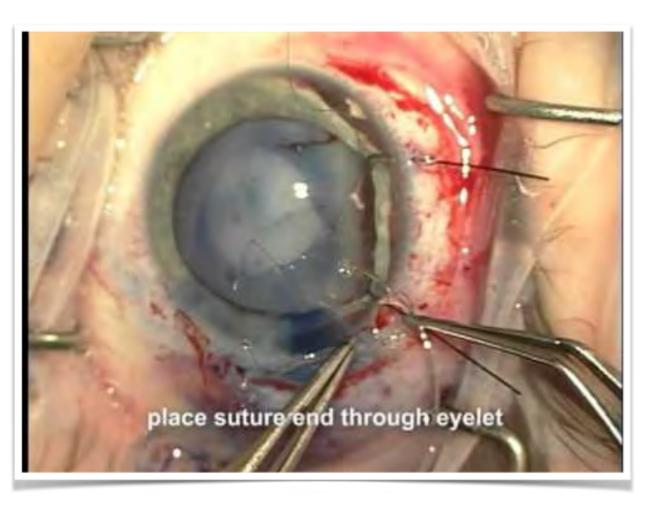
Nucleus delivery



- Extensive manipulation in nucleus delivery leads to:
- Endothelial damage
- Zonular dialysis
- · PCR
- Iridodialysis
- Note: enlarge the incision/ use visco



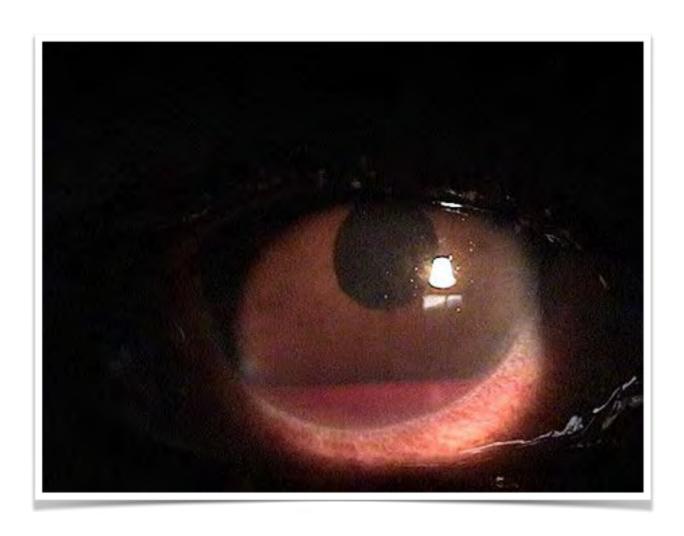
Iris Injury



- Sphincter tears
- Iridodialysis
- Iris prolapse management: Iridodialysis – Suture
- Iris prolapse: repositioning and suture the tunnel



Hyphema



- Iris bleeding due to handling
- Iridodialysis
- Posterior deep tunnel
- Treatment: air injection or visco injection, wait until bleeding stops, avoid fluidics



Intra-op Miosis



- Iris touch
- Hooks or ring insertion
- Management
- · Intra-cameral adrenaline



Post-capsular Tear

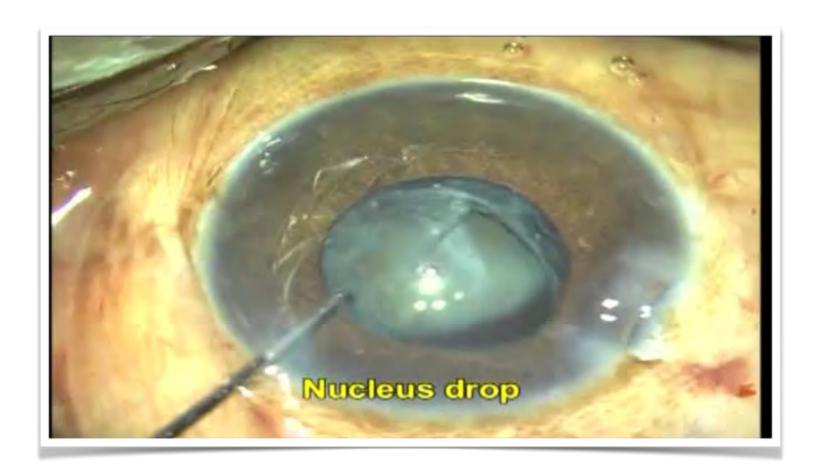
- Causes: capsulotomy/rhexis going peripher/nucleus prolapse and delivery/IOL insertion/fluidics/zonular dialysis
- Management: stop fluidics/dry aspiration/anterior vitrectomy





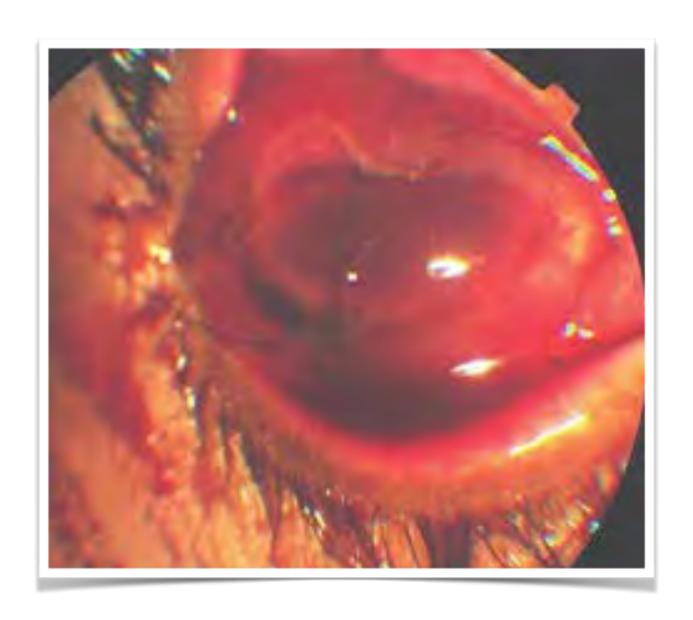
Dropped Nucleus

- Anterior: inject visco and carefully deliver with vectis
- · Posterior: vitreo-retinal surgeon intervention





Expulsive Hemorrhage



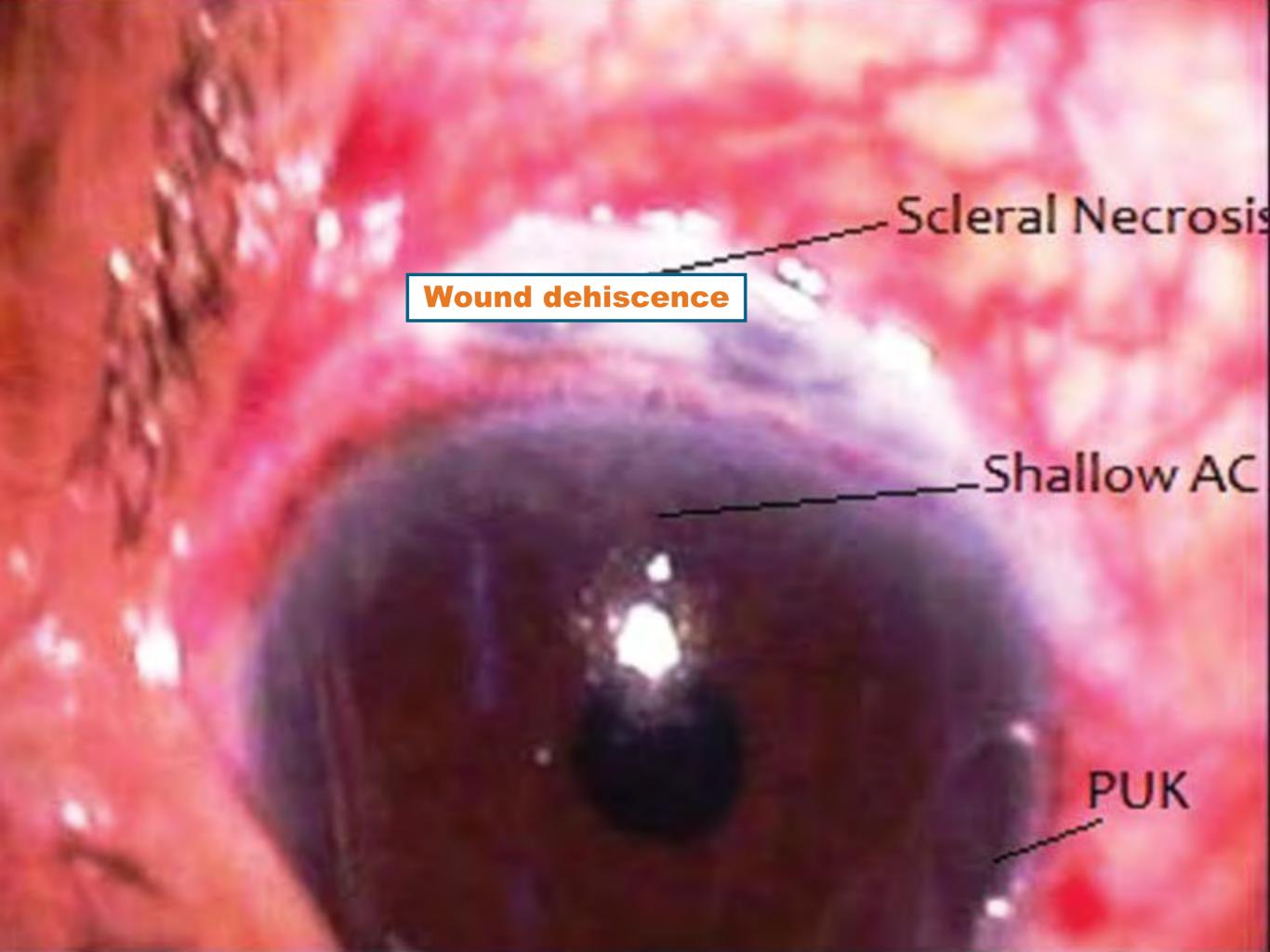
- Due to: hard globe/choroidal hemorrhage/crao/ block
- Management: suture sos
- IV mannitol
- Drain blood
- Ppv

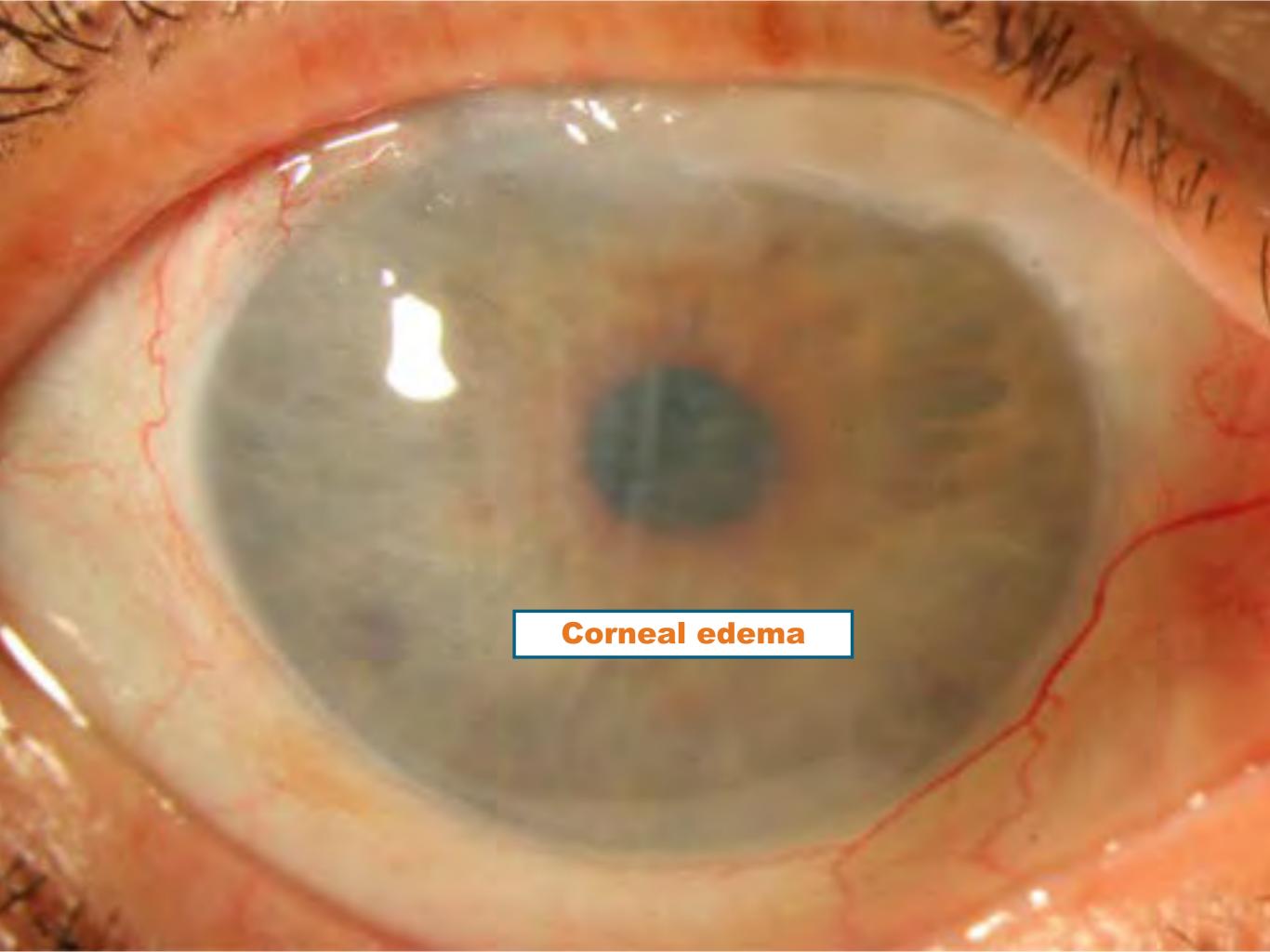


Post-Op Complications Early

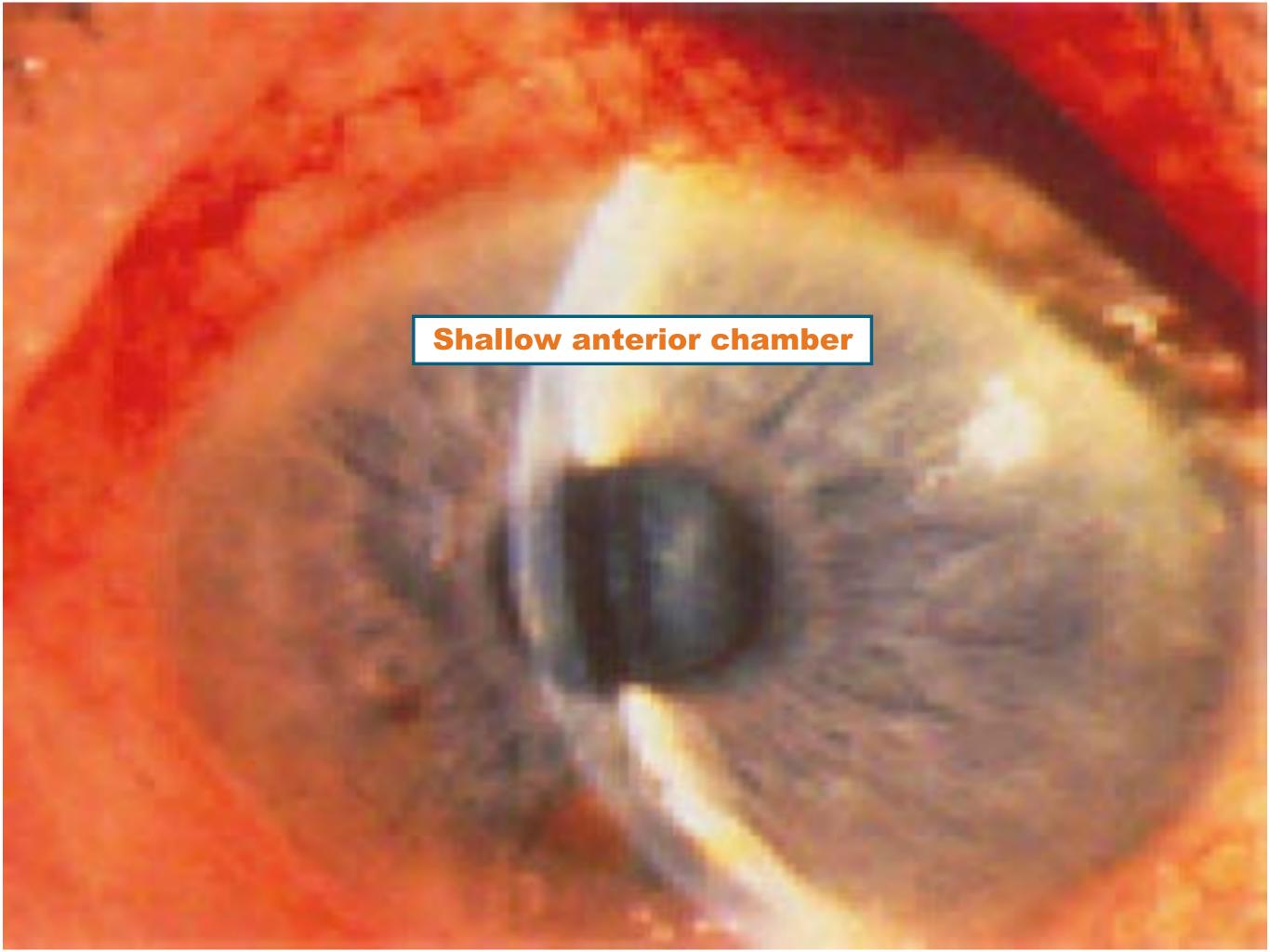
- Excessive episcleral cautery
- Premature entry
- Button holing
- Nuclear/cortical fragment in tunnel
- Post-op IOP rise
- · Collagen vascular diseases

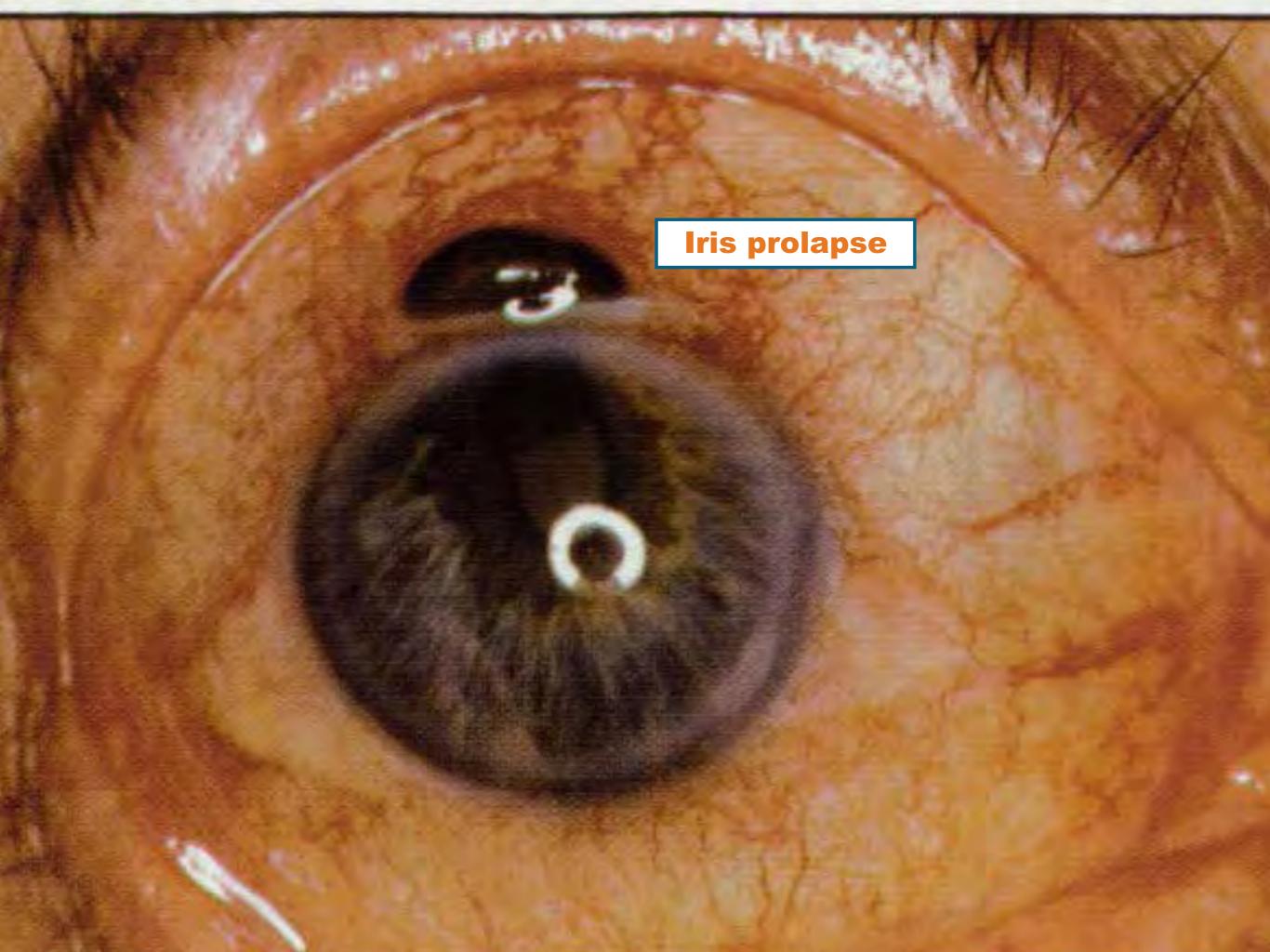


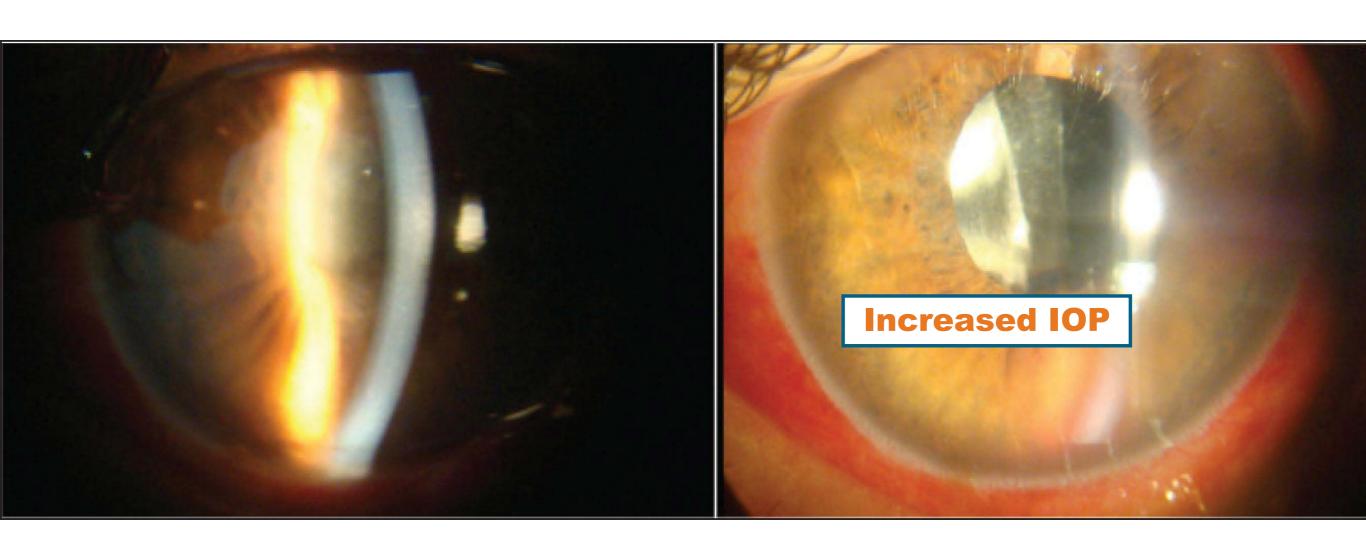






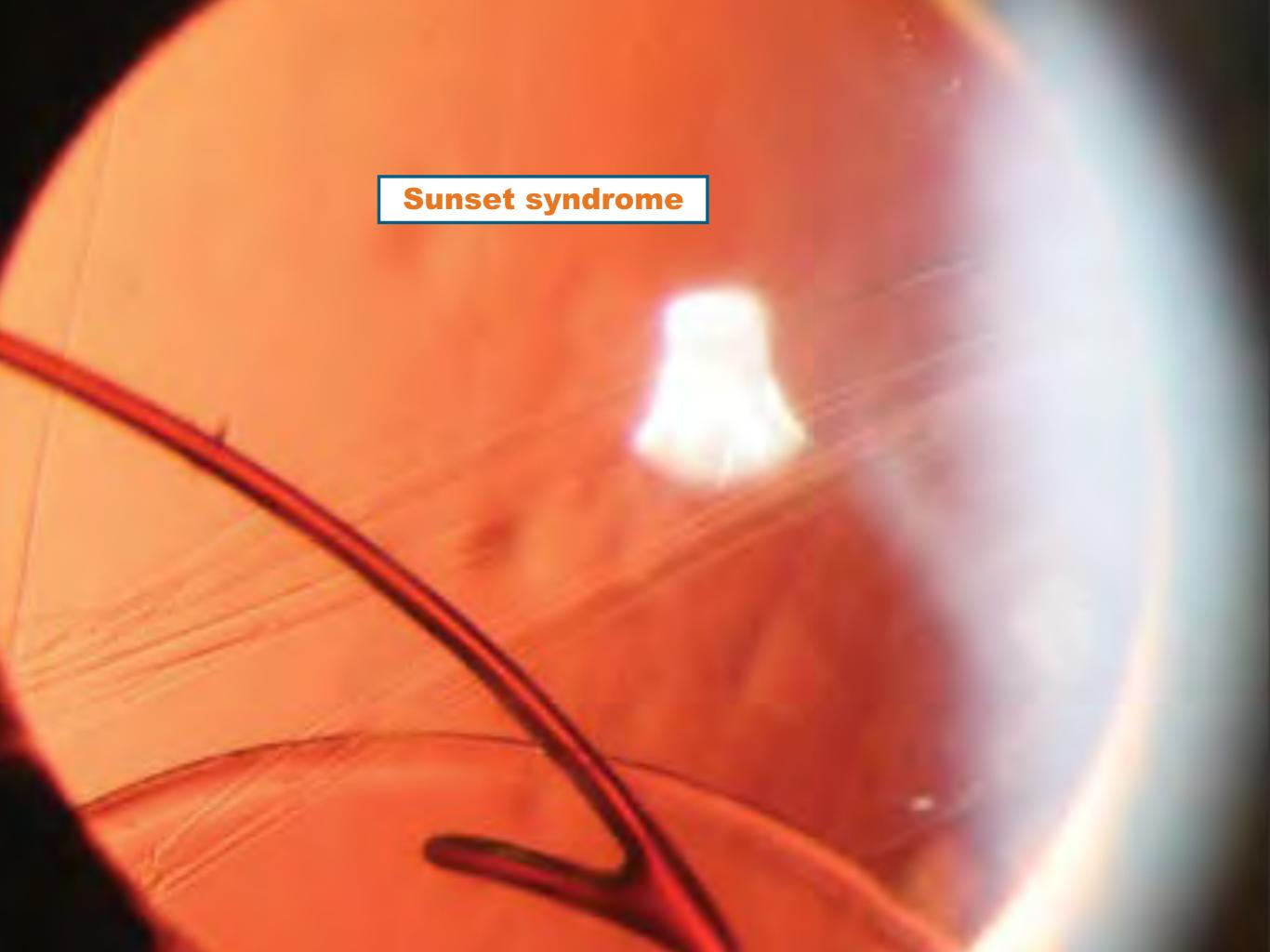


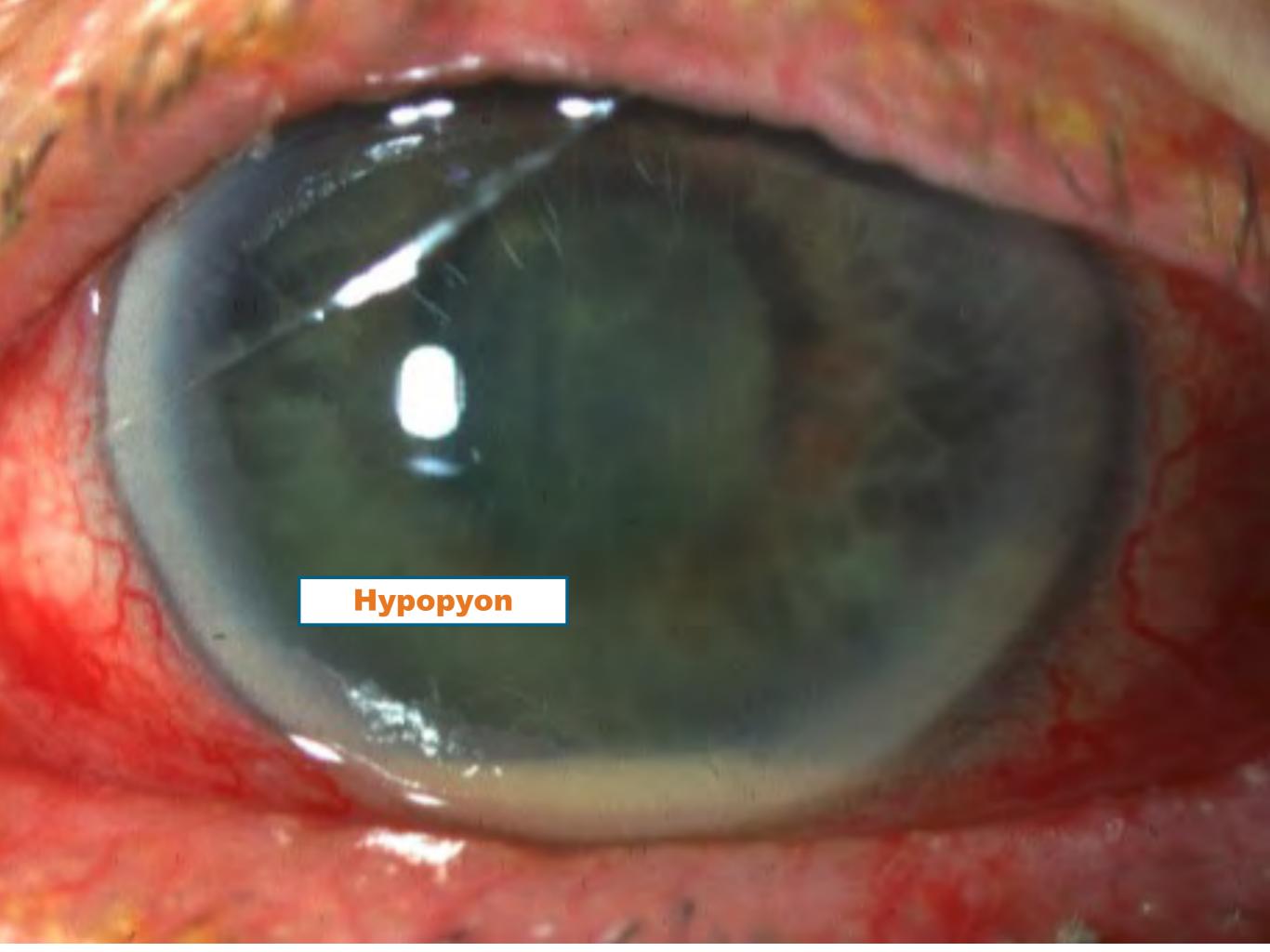












Late Post-Op Complications

Persistent inflammation/ toxic medications/ IOP rise/ AC IOL touch

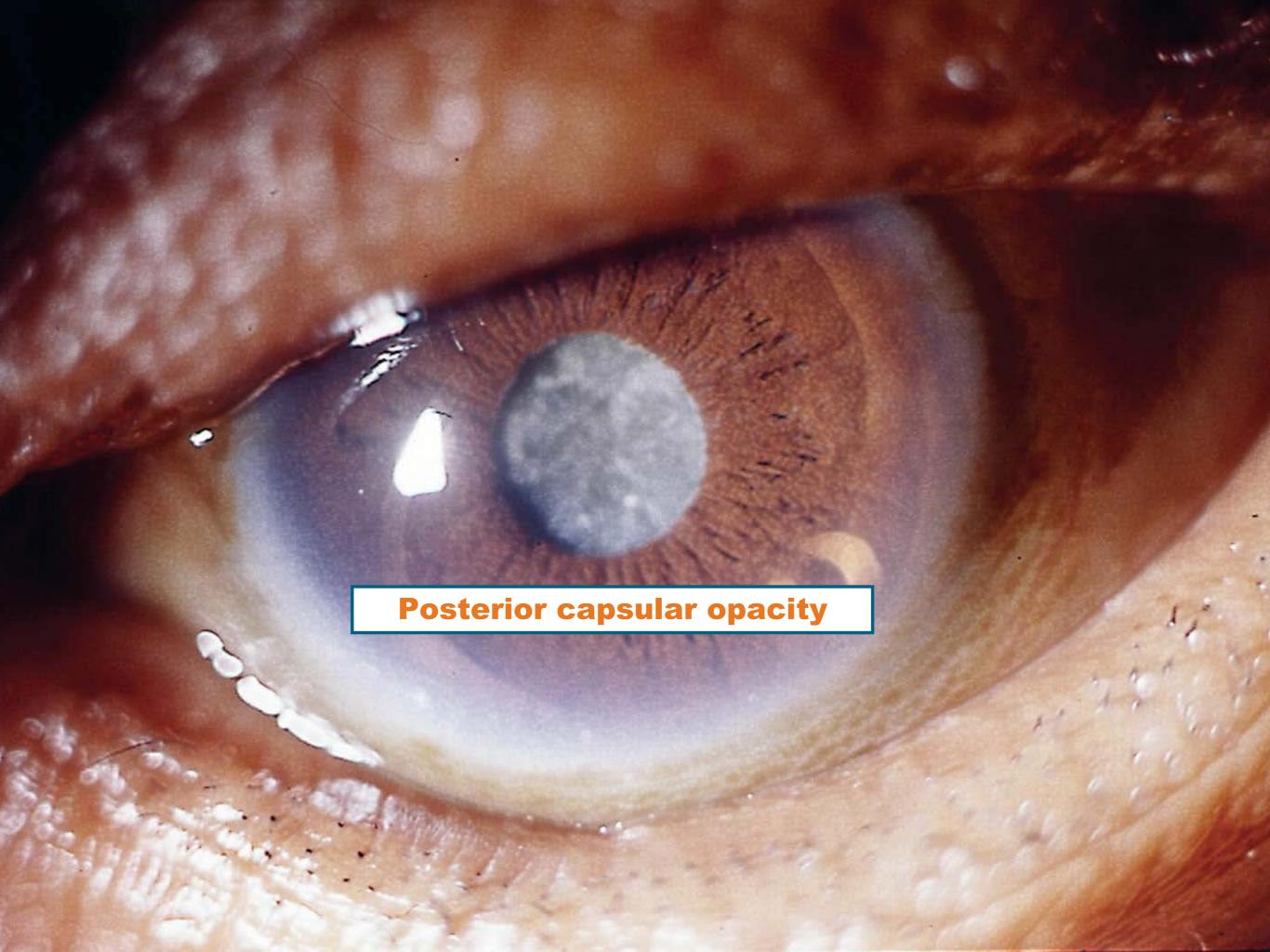
Management

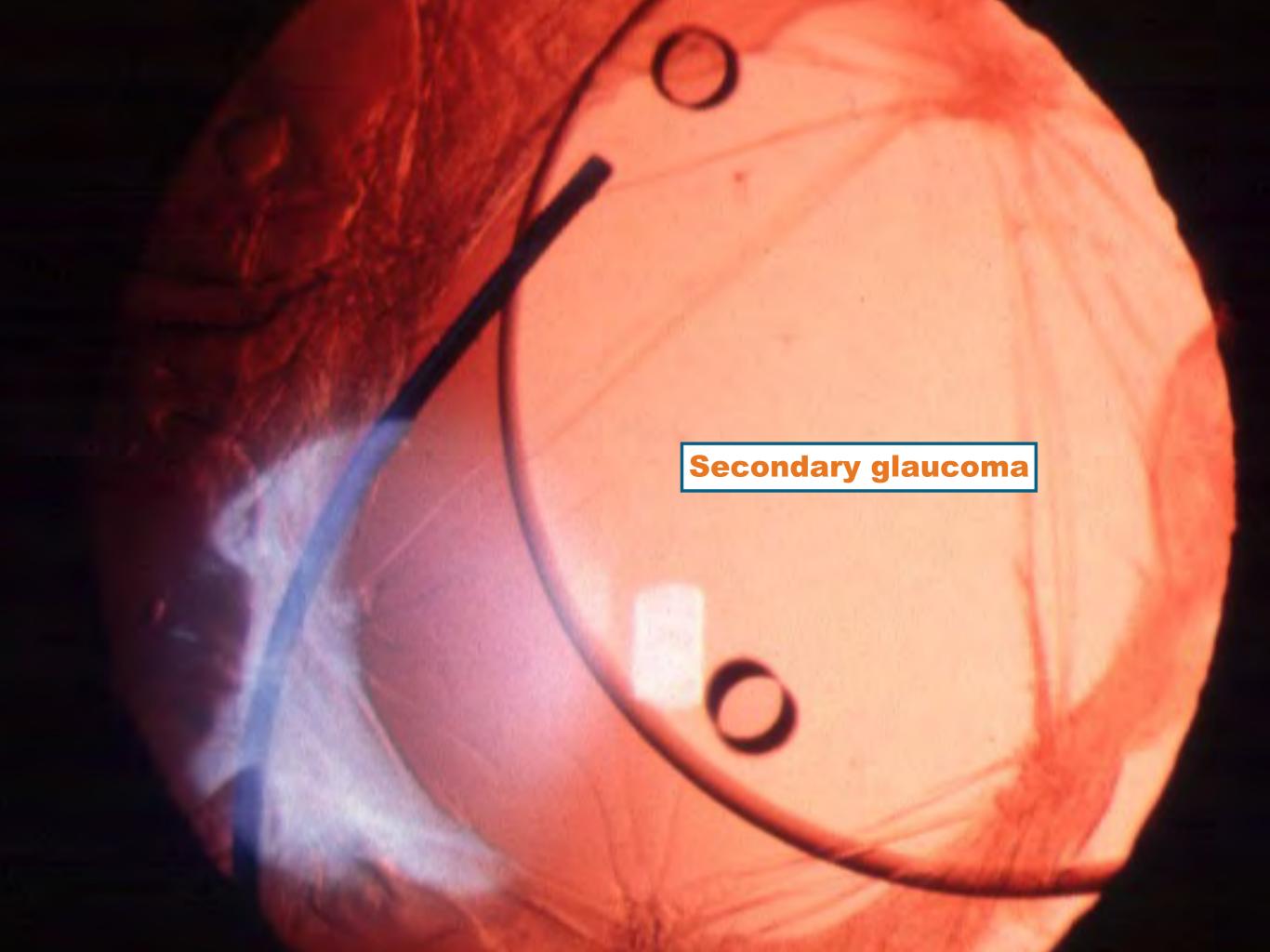
Mild: hypertonic saline drops steriods/ BCL

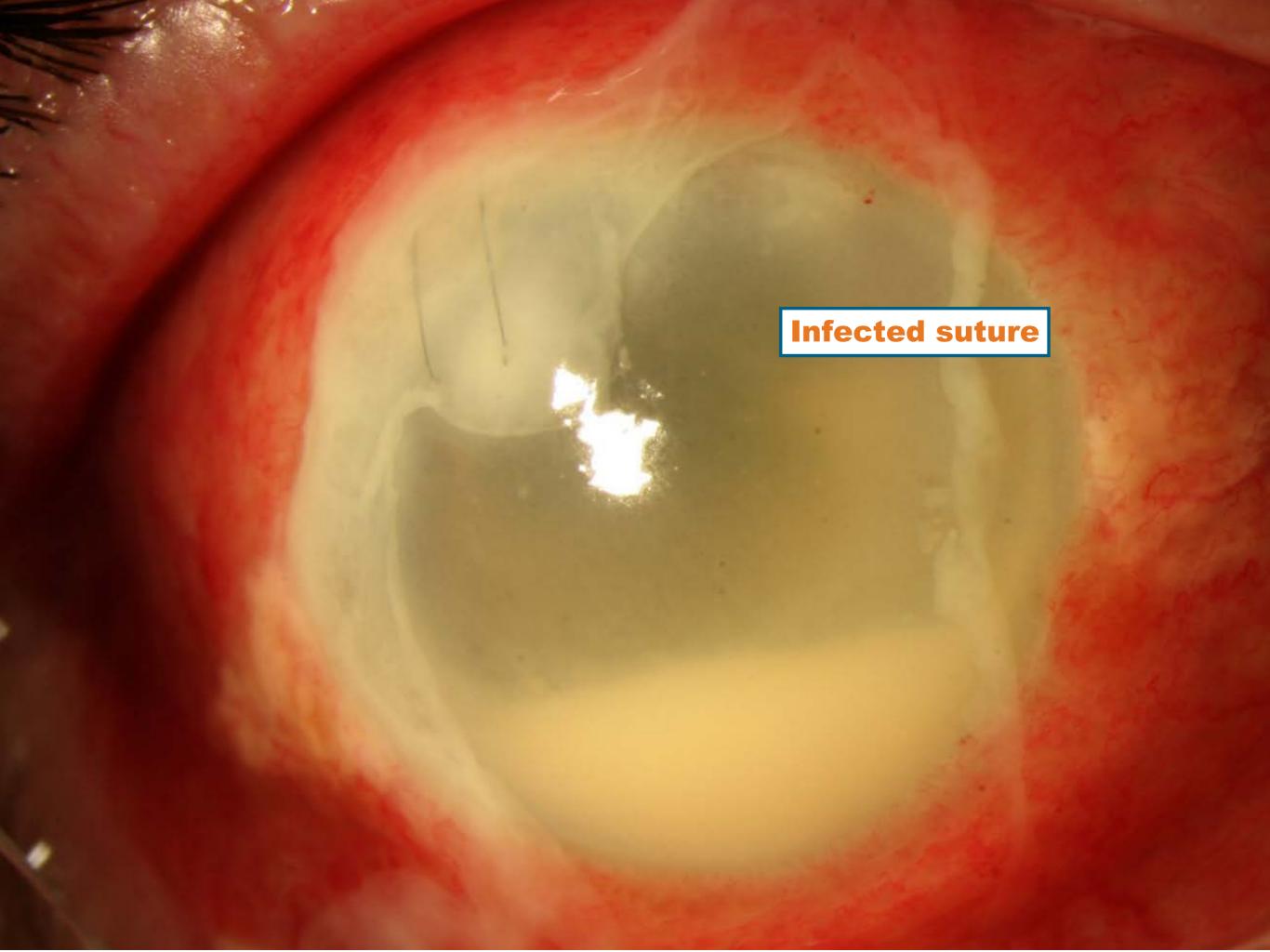
Severe: PK or DSAEK













Post-Segment

- Retinal detachment
- Cystoid macular edema
- Treatment
 NSAID for CME
 VR surgeon for RD



To Summarize







