MIGS Postoperative Evaluation

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Outline

• Elevated IOP
  • Presence of PAS
  • Hyphema
  • Retained OVD
  • Other causes

• Low IOP
  • Wound leakage
  • Iridodialysis, cyclodialysis
  • Postop inflammation

• Corneal Edema
  • Descemet's detachment
  • Other causes

No relevant financial disclosures
Elevated IOP

Hyphema

- Presence of transient postoperative hyphema varies by surgery type:
  - iStent/iStent inject: 1.2–1.9%
  - Hydrus: 0.5%
  - KDB goniotomy: up to 17%
  - GATT: 12–80%
  - Phaco alone: 0.3%
- Can attempt prevention by leaving IOP higher at end of surgery
- Need to watch for extreme elevation in IOP and corneal blood staining
- May need to return to OR for AC washout
- Late recurrent hyphema is rare, most often seen in GATT

Presence of PAS

- Focal PAS is a common postoperative feature in MIGS procedures
- Can be obstructive or non-obstructive and varies by surgery type:
  - iStent: 1.8%\(^1\)
  - Hydrus: 8-20%\(^{2,3}\)
  - Goniotomy: up to 86%\(^4\)
- Unlikely to have clinical relevance, as most studies have found no difference in IOP in the presence of PAS
- No further intervention required

PAS - Hydrus

PAS - Goniotomy

Retained viscoelastic

- Large molecules impair outflow through TM
- Typically occurs 4-6 hours after surgery
- Tx: can apply pressure on posterior lip of wound to release OVD
- Postop day 1 IOPs were lower in the setting of CEIOL + trabecular bypass device vs. CEIOL alone\(^5\) as no longer dependent on aqueous flow through the TM

Alternate causes

- Endophthalmitis
- Toxic anterior segment syndrome
- Malignant glaucoma
- Steroid response
- Vitreous prolapse in AC
- and others!
Low IOP

Wound Leakage

- Symptoms: Decreased vision
- Signs: Corneal striae, shallow AC, hyphema, choroidal folds/effusions, macular edema, optic nerve edema
- Dx: Seidel test, subtle cases may require OCT or UBM
- Tx: Antibiotics, cycloplegia, aqueous suppression, patching, surgical repair if persistent or iris prolapse

Iridodialysis or Cyclodialysis

- Infrequent, but rates vary by surgery type:
  - iStent/iStent inject: 1.2% (cyclodialysis)
  - KDB goniotomy: up to 1.2% (cyclodialysis)
  - GATT: 0.5% (iridodialysis)
- Dx: gonioscopy, may require UBM
- Treatment:
  - Medications - atropine
  - Laser photocoagulation at the site of dialysis
  - Surgery - repair indicated if persistent hypotonia, may result in sudden rise in IOP

Postoperative Inflammation

• Iritis occurs with varying frequency:\n  • iStent: 0.9%\n  • iStent inject: 5.7%\n  • Hydrus: 5.6%\n  • Phaco alone: 4.2%\n
Corneal Edema

Descemet’s detachment

• Small detachments are common and rarely vision-threatening\n• Large detachments are generally rare and can lead to significant postoperative corneal edema. May require intervention for air tamponade of Descemet’s\n• Rates vary by surgery type:\n  • KDB goniotomy: 3.8%\n  • GATT: 0.5%\n  • Canaloplasty: 1.6%
Other causes of corneal edema

- Intraoperative or postoperative flat chamber
- Irrigating solutions and reusable instruments leading to TASS
- Improper concentration of intraocular solutions
- Elevated IOP
- Inflammation
- Membranous ingrowth
- Cataract surgery related complications, if performing combined procedure

Thank you!
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