

MIGS Postoperative Evaluation

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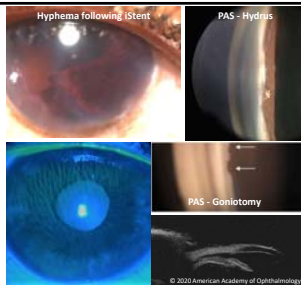


No relevant financial disclosures





Outline

- Elevated IOP
 - Presence of PAS
 - Hyphema
 - Retained OVD
 - Other causes
- Low IOP
 - Wound leakage
 - Indodialysis, cyclodialysis
 - Postop inflammation
- Corneal Edema
 - Descemet's detachment
 - Other causes




Elevated IOP




Hyphema


- Presence of transient postoperative hyphema varies by surgery type¹:
 - iStent/iStent inject¹: 1.2-1.9%
 - Hydrus¹: 0.5%
 - KDB goniotomy¹: up to 17%
 - GATT²: 12-80%
 - Phaco alone¹: 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



Hyphema following iStent



1. Vinod K, Gedde SJ. Curr Opin Ophthalmol. 2021 Mar 1;32(2):160-168.
2. Guo et al. Int J Ophthalmol 2020; 13:317-324.





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

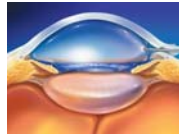


1. Vinod K, Gedde SJ. *Curr Opin Ophthalmol.* 2021 Mar; 1:32(2):160-168.
 2. Pfeiffer N et al. *Ophthalmology.* 2015;122(7):1283-93.
 3. Samanidou TW et al. *Ophthalmology.* 2019;126(11):229-37.
 4. Mabrou M, et al. *Clin Ophthalmol.* 2021 Apr 19;15:1629-1638.



Retained viscoelastic

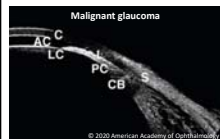
- Large molecules impair outflow through TM
- Typically occurs 4-6 hours after surgery
- Tx: can apply pressure on posterior lip of wound to release OVD
- Postop day 1 IOPs were lower in the setting of CEIOL + trabecular bypass device vs. CEIOL alone¹ as no longer dependent on aqueous flow through the TM



1. Zebardast N, et al. *Ophthalmology.* 2020 Oct;127(10):1303-1310.





Alternate causes



and others!

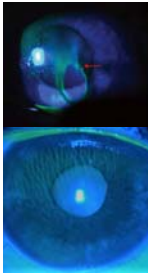




Low IOP

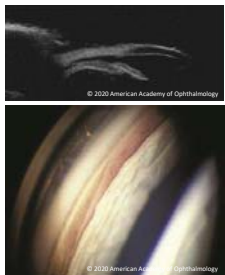


Wound Leakage

- 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/Stent inject: 1.2% (cyclodialysis)
 - KDB goniotomy: up to 1.2%¹ (cyclodialysis)
 - GATT²: 0.5% (iridodialysis)
- Dx: gonioscopy, may require UBM
- Treatment:
 - Medications - atropine
 - Laser photocoagulation at the site of dialysis
 - Surgery – repair indicated if persistent hypotony, may result in sudden rise in IOP

1. Falkenberg S, et al. JCRS 2020; 46:1165 – 1171.
2. Guo et al. Int J Ophthalmol 2020; 13:317-324.

Postoperative Inflammation

- Iritis occurs with varying frequency¹:
 - iStent: 0.9%
 - iStent inject: 5.7%
 - Hydrus: 5.6%
 - Phaco alone: 4.2%



1. Vinod K, Gedde SJ. Curr Opin Ophthalmol. 2021 Mar 1;32(2):160-168.

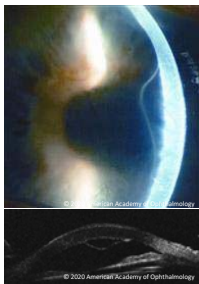


Corneal Edema



Descemet's detachment

- Small detachments are common and rarely vision-threatening
- Large detachments are generally rare and can lead to significant postoperative corneal edema. May require intervention for air tamponade of Descemet's
- Rates vary by surgery type:
 - KDB goniotomy¹: 3.8%
 - GATT²: 0.5%
 - Canaloplasty³: 1-6%



1. Doranji SK, et al. Clin Ophthalmol 2018; 12:791-797.
 2. Goss et al. Int J Ophthalmol 2005; 13:317-324.
 3. Branda MA, Greenbaum MC. J Ophthalmol. 2013;2013:705955.



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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