

Minimally Invasive Glaucoma Surgery: Management of Intra- and Postoperative Complications

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Overview



- Preoperative Considerations Jonathan Myers MD
- Angle based MIGS:
- Intraoperative Issues Natasha N. Kolomeyer MD
- Specific Procedural Considerations Daniel Lee MD
- Postoperative Issues Aakriti G. Shukla MD
- Subconjunctival MIGS: Post Op Reza Razeghinejad MD

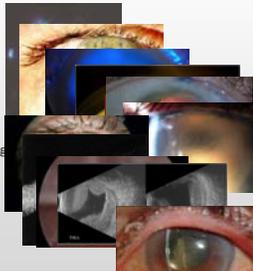


Minimally Invasive Glaucoma Surgery



Less Risk is Not Zero Risk

- Wound leak
- Hyphema
- IOP spike
- Misplaced device
- Dislocated device
- Dislocated IOL
- Vitreous loss
- Bullous keratopathy/ K Failure
- Descemets detachment
- Iridodialysis/Aniridia
- Cyclodialysis
- Retinal Detachment
- Hypotony
- Choroidal effusions
- Suprachoroidal hemorrhag
- Chronic uveitis
- Corneal infiltrate
- Endophthalmitis



Risk Mitigation

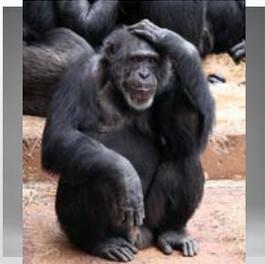
- Anticipate
- Reduce odds of complications
- Reduce severity of complications
- Engage patient in these processes





Anticipation

- What are the known complications of this procedure?
- What aspects of your patient increase these risks?





Patient Risk Factors: Intra-Op Cooperation

- Mentation
- Self discipline
- Physical issues, eg nystagmus, restless leg syndrome
- Language

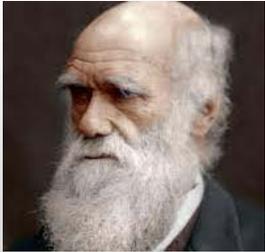




Patient Risk Factors: Difficult Access



- Body habitus
- Kyphosis
- Overhanging brow/Deep orbit
- BMI
- Surgical positioning
- Bed capacity
- Anesthesia concerns
- Post op Valsalva/positive pressure
- Post op slit lamp maneuvers




Patient Risk Factors: Hemorrhage



- Blood Pressure
- Blood Thinners
- Blood in Schlemms
- Increased episcleral venous pressure
- High pre-op IOP
- Thick neck/large mass/Valsalva
- Post Op Activities eg Tennis, Headstands, Dog feeding, Jet Flying




Patient Risk Factors: Poor Visualization



- Arcus
- Corneal scars
- Corneal edema
- PAS
- Lack of TM pigmentation
- Hardware in the eye




Patient Risk Factors: Litigation

- Pre-op time with surgeon
- Pre-op expectations
 - Did the patient understand the limits of our treatments?
 - Sight lost to glaucoma vs cataract
 - Did the patient know they were high risk?
- Personality




Subconjunctival MIGS

- Conjunctival Issues
 - Thick
 - More MMC?
 - Ab Externo approach?
 - Thin
 - Less MMC
 - Avoiding tears, leaks and erosions
 - Mobile? Scarring?
 - Best area for procedure
- Visualization
 - Avoid causing hemorrhages
 - Stain tip of Xen
- Preop
 - Conjunctival health
 - Stop medications/Start Steroids preop?
 - Possible concern: Contact Lens wear



Optimize the Conjunctiva

- Stop medications when possible
 - Especially those more detrimental to that patient's tissues
- Start steroids 1-2 weeks pre-op
- Continue steroids longer




Other Considerations

- Skin pigmentation
- Deep orbit etc
- Shallow AC
- Thin sclera
- Nasal blebs and dysesthesia
- Post Op Compliance





Filtering Surgery with Devices

- Blebitis, dysesthesia, malignant glaucoma, contact lens issues, suprachoroidal hemorrhages, hypotony, erosions, shallow chambers, revisions/needling etc may occur
- But much less often....





Intra Operative Issues with Subconj MIGS

- Conjunctival Issues
 - Buttonholes
 - Subconj Hemorrhage




Intra Operative Issues with Subconj MIGS



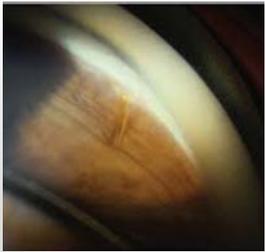
- Hyphema
 - Most common with ab interno placement
 - Avoid double tap
 - Avoid posterior entry in angle
- Tamponade with viscoelastic
 - Flush and refill as needed for view
 - Washout viscoelastic before end of case if possible




Intra Operative Issues with Subconj MIGS



- Placement Issues
 - Too anterior
 - Too posterior
 - Too short
 - Too long
- Fix it!
 - Remove and replace, ab interno or ab externo
 - Be super gentle with the implant once wet




Surgeon Factors



- Experience
- Preparation
 - Procedure related
 - Patient related
- Commitment to making this procedure work
- Engagement with the patient





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