Pre-operative Considerations

- Diabetes
- Uveitis
- Macular Degeneration
- Screening OCT?
55 y.o. BM with Type 2 DM, Mild NPDR, central PSC

63 y.o. WM, Type 2 DM, 20/70, 2+ NS, new distortion

Pre-op Considerations - Diabetes

- No retinopathy:
  - Low risk if uncomplicated
  - Bring your “A” game
- ≥ Moderate NPDR:
  - Direct communication required by retinologist
  - Consider FA/OCT
  - Manage proliferative disease (anti-VEGF, PRP)
  - Manage edema
    - Anti-VEGF
    - Can time surgery between injections if needed

Screening OCT?

- Something isn’t right…
  - Symmetrical cataracts but asymmetrical vision
  - Atypical symptoms (scotoma, distortion)
  - Evidence of AMD on examination
  - h/o diabetes
  - Premium IOL
  - Satisfaction of search
Intraoperative Complications

- Anesthetic complications
- Toxicity (photic, med)
- Capsular Rupture/retained lens
- Choroidal detachment

Retrobulbar Block

70 y.o WF with Poor Vision on POD#1

- No pain
- Surgical Details
  - Combined cataract extraction with trabeculectomy
    - Mitomycin C used
    - No known complications
  - Local anesthesia with sedation
- PMH: mild HTN
- PSH: Hysterectomy 15 year ago
- All: PCN, rash as a child
Examination

• BCVA NLP OD, 20/32 OS
• IOP 4 OD, 9 OS
• BP 137/73

3 Weeks Later: Va OD = NLP
Additional Surgical Details

- During the preoperative nursing interview a remote history of penicillin allergy obtained
- Postoperative subconjunctival cefazolin withheld
- Postoperative subconjunctival tobramycin given as an alternative in penicillin allergic patients per the surgery center protocol

Aminoglycoside Toxicity

- Macular infarction and severe vision loss
- Differs from CRAO in that it does not re-perfuse with time
- Even with appropriate doses
- Intravitreal and subconjunctival
- Prevention is the only option
  - No aminoglycosides for infection prophylaxis!

History

- 63 y/o Hispanic female
- Referral:
  - Acute severe bilateral vision loss
  - n/o ARN
- PMH: controlled HTN on meds, anxiety
- No travel x 4 years, from Puerto Rico, lives ME
- Exposure cat, chickens

Courtesy Caroline Baumal, MD and Andre Witkin, MD
History

• Uneventful sequential phaco/PCIOL
  OD: 6/5/14
  OS: 6/12/14
  Intracameral Vancomycin
• 6/10/14 Vision loss, OD
• 6/18/14 Exam
  • IOP 24/26, retinal vasculitis, ischemia, disc staining OU, OD>OS
  • Valtrax PO, PF 3x.
• 6/22/14 Vision loss OS
• 6/23/14 Oral prednisone by rheumatologist 40mg
• 6/26/14 Worsening OU

VA: CF (+) RAPD

VA: 20/50
After 35 days: No change
Vancomycin-induced Leukoclastic Vasculitis?

62 y.o. WF
- h/o traumatic macular hole
- Exercise band injury
  - s/p successful repair 7 months ago
- CC: painless vision loss
- Exam: 3+ NS cataract
- Plan: Phaco/IOL
  - Upon initiating the capsulorhexis, the entire lens complex dislocated into the vitreous cavity
  - Wound closed and patient referred the next day

Pre-op: 20/125
Post-op month 2: 20/63
Retained Lens Fragments: Complications

- Inflammation
  - Synechiae
  - CME
- Glaucoma
  - ~4% in literature
  - Portends worse outcome
  - Reduced risk when vitrectomy/lensectomy performed in ≤ 1 week
- Retinal detachment
  - ~11% all published series
  - 3.6% in a recent series
- Iatrogenic retinal trauma
  - Direct injury
  - Choroidal neovascularization

Retained Lens Fragments: Management

- Intraoperative
  - Careful vitrectomy
  - Triamcinolone
  - Separate ports for infusion and cutting
  - Place an IOL if possible
  - Avoid chasing fragments posterior to the iris plane
  - Posterior assisted levitation: carefully examine the peripheral retina
  - Suture wound even if non-leaking
- Postoperative
  - Intensive IOP control: acetazolamide
  - Intensive inflammation control
  - If you consider referral: do it

Retained Lens Fragments: Management

- Observation
  - Smaller fragments
  - Encapsulated fragments
  - Well tolerated fragments
- Vitrectomy/Lensectomy
  - Delivery through the limbal wound
  - Fragmentation
  - Vitreous cutter
- Timing
  - Literature reports: No advantage to same day or immediate surgery
  - Recommendation: refer early if any question
  - OR next door?
  - I have done it
  - They are never my patient

Retained Cortical Material

Spontaneously Dislocated Lens
Review of 166 eyes followed for ≥ 3 months
- 72.3% were 20/40 or better
- 10.8% were 20/200 or worse

Predictors of final VA 20/40 or better
- Presenting visual acuity
- PC-IOL inserted during cataract surgery
- Absence of preoperative eye disease

Predictors of final VA 20/200 or worse
- Pre-existing eye disease
- Development of glaucoma

93 y.o. WF
- Followed with painless vision loss for 8 years. Unable to read for the past 6 months
- PMH: HTN, CAD, Atrial fibrillation
- Meds: Coumadin, Atenolol
- Examination:
  - VA: 20/80 OU
  - Dense NS cataract
- CE/IOL
  - Long phaco time
  - Discomfort/agitation
  - Change in the red reflex
  - Shallowing of AC
  - Eye pain

Suprachoroidal Hemorrhage Treatment
- Follow with ultrasound
  - Spontaneous resolution
  - Liquefaction of clot
- Surgical intervention
  - Posterior sclerotomies with AC infusion
    - +/- vitrectomy
    - +/- perfluorocarbon liquid
    - +/- scleral buckle
- Anticoagulants
  - Discontinuation may increase risk of life-threatening thromboembolic event
  - No evidence to support cessation of coumadin
Suprachoroidal Hemorrhage: Outcome

- 23% with final VA 20/200 or better
  - Cataract surgery better prognosis
  - Kissing choroidals had surgery more frequently
- Features associated with poor outcome
  - Initial RD
  - 360 degree hemorrhage


Conclusions

- Careful pre-op assessment may help to avoid operative complications
  - Adequate control of diabetic retinopathy and uveitis
  - Screening OCT in select cases
- Periocular anesthetic injection
  - Blind stick
  - Consider peribulbar and not retrobulbar
- Aminoglycosides should not be injected in or around the eye for infection prophylaxis

Conclusions

- Retained lens material after cataract surgery has a good prognosis…
  - With appropriate intraoperative and postoperative management
  - Especially in cases with no pre-existing ocular disease
- Suprachoroidal hemorrhage remains a rare but severe complication with a poor prognosis
Managing Posterior Segment Complications of Anterior Segment Surgery

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