Practical Care of the Cataract Patient with Retinal Disease
Brooks R. Alldredge, OD, FAAO
Kelly L. Cyr, OD, FAAO
The Retina Center
Eye Associates of New Mexico
4411 The 25 Way NE, Suite 325
Albuquerque, New Mexico, 87109
Tel: 888-393-7669
Email: brooks.alldredge@gmail.com

Outline
I. Lecture purpose and introduction
   Optometrists are increasingly comanaging the cataract surgery of not only patients with otherwise healthy eyes, but also those with significant coexisting ocular disease. Patient with retinal or macular disease usually increase the complexity of perioperative cataract care. This course discusses the practical considerations of the patient considering cataract surgery with known preexisting retinal disease or prior retinal surgery.

II. General considerations and principles
   A. Accurate, timely and understandable communication between comanaging optometrist, treating retina physician (if any) and cataract surgeon is always important. However, more complex cases require even more attention to both detail and communication.

   B. Know the surgical techniques of the surgeons and subspecialists with whom you work.
      1. Ask to shadow or meet with surgeons and subspecialists.
         a. For the cataract surgeon: Location of main and port incisions, type of anesthesia, preference for depth of phaco (i.e., shallow phaco has more transient corneal edema early post-op while deeper phaco has more capsular complications).
         b. For the retinal specialist: Earliest that cataract surgery can be considered for specific retinal procedures (injections, lasers or surgery).

   C. Exchange immediate phone or written explanations of complications, unexpected and otherwise. Don’t be shy: Surgeons want to know of complications immediately and should have an open and welcoming way to communicate about comanaged patients - if not, consider alternative surgeons. Conversely, the surgeon should communicate any unusual surgical event that may make the post-op appearance unusual or else medicine or care that deviates from the usual.
III. Testing
A. Refraction - is best corrected acuity explained by cataract alone?

B. Preoperative spectral domain OCT is now MANDATORY standard of care for any patient with preexisting macular disease or if the cataract is not consistent with acuity.
   1. Any multifocal IOL candidate.

C. B-scan of any dense cataract that has no clinical view of posterior segment to rule-out retinal detachment, masses.

D. APD in an eye with dense cataract? Expect poor post-op acuity.

IV. Preoperative discussion and informed consent
A. Indications for surgery: Cataracts are having an adverse impact on activities of daily living.
   1. Not always easy to determine even in otherwise healthy patients. Is usually much more difficult in those with retinal disease.
      a. Is it cataracts or retina?
         i. Do symptoms and history match findings?
            A. Glare is not a common presenting complaint in retina disease, although glare testing (BAT, etc.) is often poor in patients with retina disease.
            ii. Unilateral complaint with bilaterally equivalent cataracts is unlikely secondary to cataract alone.
            iii. Potential acuity testing invaluable for prognosis.
            iv. Distortion (wavy lines, minification of images or “pin-cushion” type vision) is not common with cataract.
            v. Progression of individual conditions.
               A. Which has worsened in conjunction with acuity, retinal disease or cataracts?

B. Informed consent
   1. Detailed explanation of the ocular problems
   2. Much greater uncertainty of outcome.
      a. Document the details of the conversation with particular discussion of the uncertainty of outcome/increased risk given coexisting retinal disease.
3. How likely can the patient’s goals be met with surgery?
4. Share informed consent details with cataract surgeon and treating retina physician.

C. Surgical plan and counseling
3. Avoid monovision and multifocal IOL’s in those with macular disease.
4. Advise those with monocular status that full-time glasses wear is still recommended post-operatively to protect the good eye.

IV. The patient with prior retinal surgery

A. Vitrectomy
1. Occasionally a stand-alone procedure, but often a step in complex retinal surgery - retinal detachment repair and epiretinal membrane peel.
2. Studies indicate iatrogenic cataracts form in up to 80% of all eyes undergoing pars plana vitrectomy - true incidence is probably closer to nearly all.
3. Dense central NS can form within weeks to months after surgery – often results in rapid myopic progression and poor corrected acuity compared to senile NS. It is important that patients undergoing retina surgery involving vitrectomy are aware of this so that the patient understands that multiple surgeries may be required.
4. Cataract surgical risks and uncertainty
   a. Loss of stable zonules increases risk of capsular tear and IOL dislocation.
5. Replacement of viscous vitreous with liquid aqueous leads to more posterior position of PCIOL and likely more myopic refractive surprise.

B. Retinal detachment repair with scleral buckle
1. Increased axial length leads to increased uncertainty in IOL calculation.
   a. Careful biometry necessary to avoid globe perforation when injectable anesthetics are used.
2. Retinal detachment repair with silicone oil
   a. Usually results in hyperopic shift in refraction (could change if silicone oil is eventually removed).
3. Cataract extraction without IOL
a. Need for inferior peripheral iridectomy.
4. Silicone oil and silicone IOL.
5. How soon after vitrectomy/RD repair can cataract surgery be performed?
a. 3 months in uncomplicated cases.

V. Wet AMD

A. Preoperative OCT mandatory
   1. Evidence of response to anti-VegF treatment and 3 month minimum stability.

VI. Dry AMD

A. Should patients with severe central vision loss have cataract surgery?
   1. May benefit from improvement in glare, mobility/enhancement of peripheral vision.
   2. Case-by-case basis: Will it improve individual’s activities of daily living?
   3. Often a significant subjective improvement in vision and quality of life after CE despite significant central vision loss.

VII. Epiretinal membrane

A. Often occurs in otherwise healthy and high functioning patient with unilateral involvement. May be precipitated by prior vitreous detachment, retinal surgery (i.e., RD repair, or prior laser prophylaxis or pan-retinal photocoagulation). Dilemma is often whether cataract or ERM is source of vision complaint.

B. Listen to complaint CAREFULLY – distortion vs. glare, overall blur vs. central blur?

C. Is foveal contour distorted on OCT? Is there diffuse retinal thickening or wrinkling?

D. Patients with ERM have up to 5 times incidence of post-op CME that can be very non-responsive to topical therapy.

VIII. Retinal vein occlusion

A. Significant risk of post-op CME – counsel carefully.

IX. Reducing risk of cataract post-op CME in the retina patient

A. 1-3% incidence in an otherwise healthy eye.
B. Up to 15% with coexisting ERM.

C. Up to 30% with prior RVO.

D. Prophylactic topical NSAID’s may reduce risk in the high-risk groups to incidence in otherwise healthy eyes.

E. No consensus on prophylaxis schedule.
   1. Begin 1 week prior to cataract surgery.
   2. Low risk patients: Minor ERM, DR without history of DME – 1 month post-op.
   3. High risk patients: Previous DME, CME in fellow eye or RVO - 2 months post-op.

X. Peripheral retinal disease

A. Concern: reduce risk of post-op rhegmatogenous retinal detachment.

B. 4 year cumulative RD incidence in pseudophakia is less than 1%.

C. Risk factors for pseudophakic RRD (Haug and Bhisitkul, Curr Opin Ophth, 2012)
   1. Intraoperative complications: posterior capsular rupture.
   2. Younger age (less than 50).
   3. Males>Females.
   4. High myopia, long axial lengths.
   5. Highest incidence during first 6 months post-op.
   6. When should pre-operative laser retinopexy be considered?
      a. Extensive lattice?
      b. Operculated holes? Atrophic holes?

XI. When should a pre-operative retina specialist consult be recommended?

XII. When should a patient with co-existing retinal disease be dilated post-operatively?

10. Cases