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Be ready for anything in cataract surgery for angle closure patients

by Rich Daly EyeWorld Contributing Writer



When performing cataract surgery in angle closure patients, Dr. Brubaker prepares capsular tension rings, iris hooks, special OVDs, and the possibility for vitrectomy.

Surgeons treating cataracts in angle closure glaucoma patients should be ready for anything, said one experienced surgeon.

"With angle closure, you're dealing with big lenses, dense lenses, small pupils, and narrow working space, so there are a lot of recipes for disaster," said **Jacob Brubaker, MD**, Lincoln, California.

Going into such procedures, Dr. Brubaker prepares capsular tension rings, iris hooks, the possibility for vitrectomy, and special OVDs.

To deepen the anterior chamber, Dr. Brubaker has used a cohesive OVD and replaces it often—as needed.

In the tight spaces seen in such cases, surgeons need to protect the endothelium—especially during the phaco or when performing a capsulorhexis, he said. Dr. Brubaker has found good results with smaller instruments, such as capsulorhexis forceps, which allow him to get to the other side of the eye without wound gaps.

Femtosecond lasers also are helpful in such cases. However, he has had a case where the arcuate incisions mistakenly lined up on the iris instead of the cornea. However, the mistake was discovered before the laser was engaged.

"So be wary of that if the iris is really up against the cornea," Dr. Brubaker said.

Additionally, surgeons should watch for loose zonules and capsular wrinkles in such patients. Dr. Brubaker also uses a larger capsulorhexis to prevent phimosis.

The approach to these patients was changed by a 2016 landmark study in the *Lancet*, which examined the effectiveness of early lens extraction to treat primary angle closure glaucoma in a randomized controlled trial. It found clear lens extraction was more effective—with lower IOP (16 mm Hg vs. 17.9 mm Hg) and fewer drops (0.4 drops vs. 1.3 drops)—and more cost-effective than laser peripheral iridotomy (LPI).

"That gives us the impetus to go forward with some of these patients," Dr. Brubaker said.

In general, Dr. Brubaker's approach in angle closure patients is determined by whether patients have good IOP.

"If they have good IOP, like our common, narrow angle glaucoma, I do an LPI," Dr. Brubaker said.

However, if they are closed and have undergone a previous LPI, he performs phaco with either an iStent (Glaukos, San Clemente, California) or a Kahook Dual Blade (KDB, New World Medical, Rancho Cucamonga, California). For patients with elevated IOP and damage, Dr. Brubaker follows the approach of the 2016 *Lancet* study.

When performing phaco with a goniosynechialysis, goniotomy, and KDB, it is important to keep the viscoelastic in the eye, use smaller forceps to stay away from the endothelium, and use low-flow techniques, he said.

Other surgeons have used a Koch spatula to effectively open up the angle.

In general, Dr. Brubaker's approach to acute angle closure patients begins with an anterior chamber tap in the office to make them a little more comfortable, and then he tries to perform an LPI.

"A lot of times that will help open up the angle; if they are doing well afterward we consider phaco later once their eyes calm down," Dr. Brubaker said. "If it continues to remain closed and the pressure is still elevated, I'll do a phaco with goniosynechialysis."

Among patients with acute angle closure there often is zonulopathy, so effective lens position and the potential for a "myopic surprise" become issues.

"One of the challenges is that often the patients are seeing pretty darn great—sometimes 20/20 without refraction—and end up having a myopic surprise," Dr. Brubaker said.

Such patient may require eyeglasses for the first time postop so it is important to discuss with the patient preop about the possibility for such a surprise.

Pearls include the use of endoscopic cyclophotocoagulation (ECP) to shrink back the ciliary processes and deepen the anterior chamber. That approach can provide lower IOPs and provide better outcomes, especially in patients with more synechial closure.

Another pearl is that when using polymer irrigation and aspiration tips it is important to ensure the angle is being opened because they don't have as much force.

"A lot of times you'll be surprised that you don't have as much force as needed, so sometimes the forceps are still needed in those cases," Dr. Brubaker said. **EW**

Editors' note: Dr. Brubaker has financial interests with Aerie Pharmaceuticals (Irvine, California), Alcon (Fort Worth, Texas), Allergan (Dublin, Ireland), and New World Medical.