

CATARACT

Anesthesia Trends: Rethinking Topical vs. Blocks

BY MARIANNE DORAN, CONTRIBUTING WRITER

Has the pendulum of anesthesia reversed direction? In recent years, cataract surgeons had been moving from regional blocks to straight topical approaches, but now some are returning to needle-based anesthesia or opt for a middle ground with sub-Tenon's procedures. "For a while everyone rushed to straight topical—and there are still a lot of ophthalmologists doing that and doing it very well," said David D. Markoff, MD, in private practice in Clyde, N.C., and president of the Ophthalmic Anesthesia Society. "But I know some people who went to topical and have now gone back to having the anesthetist do a full retrobulbar block. Others, especially overseas, use a sub-Tenon's block, which is where I have settled out. Sub-Tenon's often gives you a better block than topical, but with the blunt plastic cannula you don't have the risk of placing a needle someplace where it's going to cause a problem." He added that almost half of non-needle-based blocks in the United Kingdom are now sub-Tenon's.

Anesthesia Professionals Play Key Role

R. Bruce Wallace III, MD, clinical professor of ophthalmology at Louisiana State University in New Orleans, has also witnessed a shift in surgeon preferences in the United States. "A number of surgeons tried topical, even for several years, and found an efficiency problem, and certainly had

a concern about unpredictability in some patients." With needle-based procedures, much depends on the anesthesia professional, Dr. Wallace said. Some surgeons have gone back to using injection anesthesia if the anesthesia partner can do good blocks.

Nursing to the rescue. "We're seeing more clinical registered nurse anesthetists who are practicing more or less on their own," Dr. Wallace continued, "and some are becoming ophthalmology specific. Once they have that extra expertise and experience, the surgeon can rely even more on their skills."

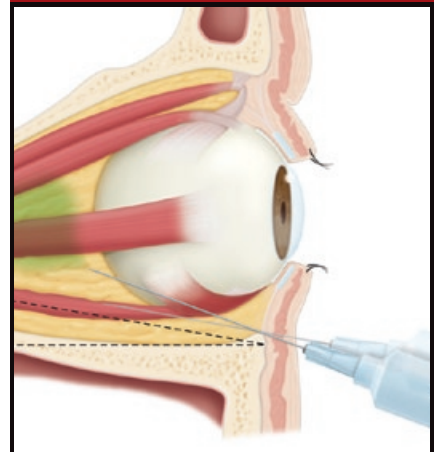
Dr. Markoff added that some CRNAs have devoted their entire professional lives to becoming very proficient in performing retrobulbar blocks, and many surgeons, especially in high-volume centers, appreciate having the eye completely blocked when they come into the operating room.

Physician and Patient Preferences

All of the approaches to cataract anesthesia provide adequate pain control, and serious problems are rare. As a result, the choice of technique usually comes down to a physician's preference and comfort level and any concerns or preferences the patient may have.

Some patients don't like retrobulbar procedures because they dislike seeing the needle coming toward them. "In the few head-to-head studies that have been done, patients like the anesthesia of a retrobulbar block, but they don't like the administration of it," Dr.

Retrobulbar Anesthesia



For pain control in cataract surgery, retrobulbar anesthesia is making a comeback among some surgeons.

Markoff noted. "And they love the administration of topical anesthesia but sometimes don't like that the eye is not real numb and that they can see the light. With a sub-Tenon's procedure, you get blunting of the light reflex, but sub-Tenon's doesn't completely knock out the muscles, so you don't get the degree of akinesia you would with a retrobulbar block."

Tailor approach to the patient. In some instances, the type of patient or certain clinical situations will dictate the choice of anesthesia. Children and those patients who are hearing impaired, do not speak English or are mentally challenged may be better suited to blocks, Dr. Wallace said. Even general anesthesia should be considered in some circumstances.

“I have found a subgroup of patients with mature cataracts to be an issue because they have waited so long and have neglected themselves,” he added. “These are tougher cases to do anyway, and I have found the patients to be unpredictable in the operating room. It’s hard to know what they are going to do and how cooperative they will be. The surgeon then has to decide whether to

add extra IV sedation with topical or to use a combination of IV sedation, topical and injection anesthesia.”

New Topical Options

A new lidocaine hydrochloride product called Akten was introduced last November. It is a 3.5 percent viscous ocular-specific lidocaine gel. In a phase 3 randomized, double-blind trial pub-

lished last year, 92 percent of patients receiving the 3.5 percent Akten gel achieved anesthesia within five minutes, compared with 22 percent for a sham gel, 88 percent for Akten 1.5 percent and 89 percent for Akten 2.5 percent.¹ All doses were well-tolerated, with no corneal toxicity. Dr. Markoff said the product is about twice as strong as the conventional urologic

What Your Risk Manager Wants You to Know

In her role as risk manager for the Ophthalmic Mutual Insurance Company (OMIC), Anne M. Menke, RN, PhD, analyzes all the things that can go wrong in the practice of ophthalmology and how these liability risks and potential threats to patient safety can be avoided.

Fortunately, the risk of a lawsuit over ophthalmic anesthesia is small. In a study of OMIC’s claims over the course of 18 years, only 3 percent of the 2,474 cases involved anesthesia and sedation. But in comparison to OMIC’s overall claims experience, the plaintiff was more likely to win an anesthesia case, Dr. Menke noted, and the average payout was higher (\$224,027) than the overall average payment (\$144,250).

IDENTIFY RISKY PROCEDURES. In the OMIC study, orbital anesthesia accounted for 89 percent of the company’s anesthesia cases, with retrobulbar blocks responsible for about two-thirds of those claims. The most common complications were perforation of the globe, cardiovascular events and hemorrhage.

OMIC has had very few cases involving topical anesthesia, Dr. Menke noted, but the company is starting to see more. “The two allegations about topicals are inadequate pain relief and failure to control movement,” she said. “But when you look at the risk profile, this is much safer than retrobulbar or sub-Tenon’s blocks if you have a patient who is calm enough to withstand the sense of pressure and who can handle the anxiety of the procedure. Anesthesia providers are skilled at managing anxiety with sedation.”

CAUTION WITH SEDATION. That said, sedation carries some risks, especially if it is not performed by an anesthesia professional, such as a CRNA or anesthesiologist. The rule on giving IV sedation is that if the patient is inadvertently given more and goes into a deeper level of sedation, the anesthesia partner has to have the skill set to rescue them. OMIC has handled a few cases in which an RN employed by the ophthalmologist was monitoring the patient and encountered serious unanticipated problems but was not prepared to handle them.

“The real problems occur when the patient’s nonophthalmic risks, such as hypertension, have not been properly assessed,” Dr. Menke said. “Especially with elderly patients you have to be very mindful of the dose and the half-life. In general, problems arise because the patient was not monitored properly. In one case, a patient had some significant problems that were not recognized and was discharged with very low blood pressure.”

Dr. Menke added that elderly people with very high blood pressure may experience a dramatic drop in pressure and yet they may still have a reading that is in the “normal” range. That’s why it’s important that patients not be discharged until their blood pressure has returned to the range that is normal for them.

CROSSING THE MINEFIELDS SAFELY. Other issues that can increase exposure to risk include:

- **Operating in an unaccredited facility.** Perform surgery only in a facility that is certified for cataract surgery by Medicare or another accrediting body.
- **Poor communication with the anesthesia provider.** Alert the anesthesia provider to eye abnormalities, such as a staphyloma, which could lead to life- or sight-threatening mistakes during needle-based procedures. Similarly, if a patient is on anticoagulants, the anesthesia provider should be aware of the bleeding potential.
- **Inadequate screening for medical morbidities.** For elderly patients or those with known health problems, try to obtain a preoperative clearance from the patient’s primary care provider. Let the primary care physician know what type of anesthesia is planned and discuss the best way to manage patients on anticoagulant medication. Also, be familiar with the American Society of Anesthesiology’s physical status risk classification for anesthesia.
- **Inadequate informed consent.** Spend time discussing the potential risks of the anesthesia with the patient, not just the risks involved in the cataract procedure itself. Include a discussion of the risks and benefits of stopping versus continuing anticoagulant medication.
- **Dismissing complaints of pain.** If the patient complains of pain at any time during cataract surgery, stop the procedure and do not resume until the patient agrees that the pain has resolved enough to proceed. Document the discussion.
- **Appearing to supervise the anesthesia provider.** When working with an anesthesia professional, do not suggest how he or she should manage any problems that arise. Instead, simply state what the problem is (“The patient is restless”) and let the provider decide how to resolve the problem.

Paying attention to these potential pitfalls will reduce vulnerability to a lawsuit—and help both provider and insurer sleep better at night.

lidocaine gel and appears to work as well or, from anecdotal experience, perhaps a little better.

Dr. Wallace noted that high-viscosity 0.5 percent tetracaine hydrochloride (TetraVisc) is becoming popular among some ophthalmologists. TetraVisc is easy to use and is dispensed as a thick drop that disperses rapidly. In a prospective randomized double-blind clinical trial, TetraVisc was found to be as effective as 2 percent lidocaine jelly and without the messiness associated with a gel.²

Regarding the debate over the need to supplement topical anesthesia with intracameral lidocaine, the jury is still out. A Cochrane Database Systematic Review of eight trials comprising 1,281 patients found lower perception of intraoperative pain in patients receiving supplementary intracameral lidocaine.³ However, the clinical differences in pain perception were small, and the analysis revealed no significant differences in the need for additional pain relief during the surgery or in postoperative pain.

Good, Old-Fashioned Sedation

What about sedation for patients undergoing cataract surgery with topical anesthesia? Although it adds a small degree of risk to the procedure (see “What Your Risk Manager Wants You to Know”), it can make a significant difference in the patient’s overall surgical experience and satisfaction. Dr. Wallace gives nearly every patient some form of sedation. “Patients measure their surgical experience by how well they can see afterward, especially without glasses, and by how painless it was. This is a barometer of a patient’s experience with a given surgeon, and it will determine whether that surgeon receives word-of-mouth referrals. If patients have a bad experience, they will pass that along very quickly.”

1 Busbee, B. G. et al. *Ophthalmic Surg Lasers Imaging* 2008;39:386–390.

2 Amiel, H. and P. S. Koch. *J Cataract Refract Surg* 2007;33:98–100.

3 Ezra, D. G. and B. D. Allan. *Cochrane Database Syst Rev* 2007;(3):CD005276.

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