Transitioning Away From Postoperative Drops

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Patients and staff will appreciate the elimination of the burdens of topical regimens.

The phone calls seemed to increase exponentially. In 2014, my staff was inundated with calls from pharmacies and from upset or confused patients. We tried to get ahead of the problem, but eventually we had trouble keeping up with the calls and complaints.

The cause of this dilemma was the rising cost of medications for patients who underwent cataract surgery. More patients were seeing their deductibles for cataract surgery medications double and even triple, from $100 to as much as $300 per eye. This was in addition to rising patient deductibles resulting from the Affordable Care Act.

To provide relief for our cataract surgery patients, we have taken incremental steps to lessen their burdens and economic hardships, while at the same time maintaining or improving the safety of the cataract procedure. This article lays out the process we went through to reduce our patients' dependence on postoperative topical medications.

STARTING SMALL

Every journey begins with a single step. We began with the usual solutions. We provided patients with drug manufacturer rebate coupons despite our knowledge that these can be rejected by pharmacies for various reasons.

Even so, when we were still prescribing drops for cataract surgery, there were some areas where we would not compromise. For instance, we stayed with a brand name fourth-generation fluoroquinolone medication instead of a less expensive, third-generation generic antibiotic. If endophthalmitis occurred, I wanted to be sure it would not be due to the absence of the better drug.[1] We did, however, allow generic NSAIDs if costs ran high.

We spent time before surgery educating patients about the need for drops postoperatively, but, once the patients received the pharmacy bill, all of that seemed to be forgotten, and upset patients would call the practice. We felt stuck in the middle, though our only goal was to provide uncompromised care to our cataract patients.

Eventually, these rising costs for our patients became an impetus for us to find a categorical solution. Data from large studies in Europe and India had supported the use of antibiotics placed in the anterior chamber at the end of cataract surgery.[2,3] These studies demonstrated a lower incidence of endophthalmitis even when no topical antibiotic was used. The strong evidence in these studies allowed me to inform my patients that they would no longer need to buy an antibiotic drop for cataract surgery.

FURTHER STEPS

If we are judged by the standard of care of the community, how does anything ever change? This paradox can inhibit the advancement of care. For this reason, I was careful to mimic the exact protocols of the published studies to ensure that there was evidence to support my actions.[2,3] At the time, in 2015, I was the only surgeon in my area performing surgery without antibiotic drops, so I proceeded with caution.

Initially, I would draw 3 cc from the moxifloxacin (Vigamox, Alcon) bottle and dilute it with balanced saline solution—1 part drug to 3 parts saline. Each morning of surgery I would supervise this routine, and, after verifying expiration dates and making certain there was no substitution of drug brand, sign off on it personally. This absolved the nursing staff of risk.

The new protocol allowed me to stop doing one of the three necessaries for cataract surgery. To decrease bacterial load on the day of surgery, I continued to give patients two drops of topical ofloxacin (Ocuflox, Allergan) in the preoperative area and a third drop immediately after surgery. I also used half-strength povidone-iodine drops during the prep.

We have used this approach with more than 5,000 patients so far and have seen more than 3 years without a case of endophthalmitis. If a patient has an allergy with a history of anaphylaxis or severe reaction to fluoroquinolones, I instead prescribe topical antibiotics for 1 week postoperatively.

OTHER OPTIONS

The success of this effort to eliminate my patients' need to buy this medication for cataract surgery

fueled a motivation to do more to lessen patients' burdens of cost and responsibility. I tried a commercially available option of combined antibiotic and steroid, but it required placing the medicine in the intravitreal space. Although this approach provided a reasonable cost and no complications during a trial period, I became less comfortable working in the back of the eye and moved to other options.

I read an article describing the technique of James P. Gills, MD, who uses sub-Tenon triamcinolone acetonide (Kenalog, Bristol-Myers Squibb) injected superonasally, 8 mm posterior to the limbus.[4] I began using this technique, placing 0.25 cc of triamcinolone at the end of each case.

Patients would sign an additional consent form for this surgery technique, which I abbreviate *STK*. The triamcinolone was not used in patients with a history of high IOP, glaucoma, or any risk of herpes simplex virus keratitis. Additionally, patients at high risk for macular edema, such as those with moderate diabetic retinopathy, would use NSAID drops for 12 weeks after surgery, even with the use of the STK.

When placing the STK, I ask the patient to look down toward his or her toes to expose the superior conjunctiva. Then I use 0.12-mm forceps to grasp Tenon and conjunctiva 8 mm from the limbus in the superonasal quadrant. With this tissue pulled up 1 to 2 mm, a 30-gauge needle is placed into the posterior sub-Tenon space. Before injecting the STK, the needle is moved side to side; if the eye does not move, this confirms that the needle is not in the sclera or a muscle. Lidocaine gel is given before the injection, numbing the eye so patients do not feel this procedure. A final drop of ofloxacin antibiotic is placed in the eye and the lid speculum is removed.

PATIENTS GET IT

My goal in all of this was to safely and effectively eliminate my patients' need to buy drops for routine cataract surgery. Because surgery is a one-time event (often twice), I did not expect patients to appreciate this benefit, but I was wrong. Patients were grateful that they did not have to buy the drops. Many also told stories of their friends who related how horrible it was to have to remember and use the drops three times per day, often for up to 1 month. Over time, our patients shared their drop-free story with others, and their friends needing surgery began to visit our practice. Patients got it.

An additional benefit of this effort was essentially regaining a full-time employee. Our clinic staff no longer received calls from patients upset about cost or needing reminders on how to use their drops or from pharmacies asking about generic options and formulary coverage. With more than 40 cataract surgeries each week, the staff was again able to focus on our primary mission. Furthermore, we trimmed at least 2 minutes from each postoperative visit for these 40 patients.

This eliminated much of the stress and frustration associated with cataract surgery for both my patients and the staff, although we do miss the creativity that patients or family members sometimes devoted to the creation of color-coded spreadsheets to keep track of the three medications, three times per day for 3 to 4 weeks.

OVERCOMING SETBACKS

There were setbacks to overcome. Some patients would have rebound inflammation and need to start a steroid drop, usually around days 7 to 10 after surgery. About one in 15 patients would need to add a generic steroid for 1 or 2 weeks for this persistent inflammation. The most common complaint at the 1-week postoperative visit was some pink diffuse coloration of the conjunctiva, sometimes perilimbal, or a slight reduction in vision.

Another setback was elevated IOP above 35 mm Hg at 2 or 3 months postoperative in fewer than 0.25% of patients (personal data). I found that a beta-blocker often worked best to control the IOP until the steroid absorbed. However, five or six patients out of 5,000 surgeries required treatment beyond topical medication. This involved needling at the slit lamp the area of concentrated STK. After applying topical proparacaine, a 30-gauge needle was used to cut into the sub-Tenon space and a 2.2-mm keratome was used to open and expose this space. It was too difficult to remove the triamcinolone plaque, but this procedure would allow absorption of the drug and break the cycle of uncontrolled IOP.

It seemed that these patients were in a cluster, so we revisited our STK protocol. First, we wanted to ensure that the suspension of triamcinolone was well-shaken before delivery to the scrub table. The circulating nurse placed the drug in a larger syringe; the 3 cc of drug

was now in a 5-cc syringe to allow the drug to have more room to be shaken.

Second, we reviewed the dose of STK. The 0.25-cc bolus had come from an article published in the late 1990s. My guess is that our current technology uses about 75% less ultrasound and produces significantly less inflammation. Modern surgery performed 20 years later should not require the same volume of triamcinolone, so we reduced the STK dose in a stepwise fashion to 0.20 cc, then 0.15 cc, and it is now 0.10 cc. We have not noticed an increase in rebound inflammation, despite using 60% less steroid.

I had some concerns about cystoid macular edema (CME) with no NSAID drop after cataract surgery. However, we have not noticed an increased incidence of CME since the transition to our current protocols. An NSAID drop is still given to patients with significant CME risk, such as those with moderate diabetic retinopathy or vein occlusions near the macula. Because one treatment for CME is actually sub-Tenon triamcinolone (ie, STK), this current regimen likely protects patients from CME.

GO FOR IT

A transition away from topical drops should begin with the physician's mindset. He or she must know that the change is medically in the best interest of the patient. Once this is established, the next step is creating a plan in concert with the clinic and surgical staff for effective implementation. Patients will appreciate your efforts in reducing their costs and increasing their safety, and your staff will appreciate the reduction in the burdens associated with compliance with the medications.

It is easy to continue doing the same thing. Change can be uncomfortable. However, focusing on what is best for your patient makes efforts like what I have described here easier and more worthwhile. ■

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