Perioperative Use of Steroids: My Rationale and Technique

By Brandon G. Busbee, MD

When I first trained as a vitreoretinal surgeon, 20-gauge technology was the standard. There was increased trauma to the eye compared with microincision surgery (23- and 25-gauge), and the exposure to infusion volume and dyes was higher. Because of these factors, the use of antibiotic and antiinflammatory drops in the postoperative period, sometimes for 1 or more months, was a common practice.

Rationale

When I switched the majority of my surgeries to 25-gauge technology, I noticed that many of my patients had significantly less postoperative inflammation compared with 20-gauge surgery. This caused me to question the regimen of prescribing a topical steroid, a cycloplegic, and an antibiotic postoperatively. I theorized I could reduce the topical regimen to solely an antibiotic drop and have patients off all drops by postoperative day 7.

Realizing that inflammation from the surgical procedure would still need to be suppressed, I decided that I would try using a steroid perioperatively. I started injecting 40 mg of triamcinolone acetonide in the inferior subtenons space at the completion of the case, and soon realized I had a moderately high rate of IOP spikes. Therefore, I titrated the dose down in a methodical fashion to try to find the balance between suppression of inflammation and minimal risk of IOP rise. I eventually settled on 4 mg (0.1 cc) of triamcinolone injected inferiorly to the sub-Tenon space. I have continued to prescribe a postoperative topical antibiotic. During this exploratory process I also stopped using topical Atropine 1% postoperatively and have continued to omit any use of a cycloplegic after vitreoretinal surgery.

I am currently compiling a report on approximately 1000 patients and will present and/or publish these data in the near future. Currently, my opinion is that the use of perioperative steroids not only controls the inflammation associated with surgery, but that it cuts costs for the patients and increases convenience for patients because they take drop out of their regimen. There are data from our anterior segment colleagues that show perioperative steroids to be as effective as suppressing inflammation as postoperative drops.

Technique

My technique is simple. At the end of every case, I have my scrub technician draw up 0.1 cc (4 mg) triamcinolone acetonide in a tuberculin 27-gauge syringe. I lift up the speculum and inject inferiorly as posterior into the globe as possible. The 0.1 cc of triamcinolone is not visible after surgery. The bottle can be used again for subsequent cases, facilitating additional cost savings for our surgical facilities. Again, patients still take topical antibiotic drops to prophylax against endophthalmitis.

Conclusion

It seems logical that if we can safely address postoperative inflammation in a perioperative manner, we should adopt this practice to increase convenience for our patients and reduce overall costs associated with surgery.

Brandon G. Busbee, MD, is with Tennessee Retina, which is based in Nashville. He is a New Retina MD Board member. Dr. Busbee may be reached at bgbusbee@yahoo.com.

Omesh P. Gupta, MD, MBA, is with the Retina Service of Wills Eye Institute, Mid Atlantic Retina, and is an Assistant Professor of Ophthalmology at Thomas Jefferson University Hospital in Philadelphia. He is a New Retina MD Board member. Dr. Gupta may be reached at 215 707 3346; or via e-mail at ogupta1@gmail.com.

John W. Kitchens, MD, is a Partner with Retina Associates of Kentucky in Lexington. He is a New Retina MD Board member. Dr. Kitchens may be reached at jkitchens@gmail.com.