

News in Review

COMMENTARY AND PERSPECTIVES

Cataract Sx & NSAIDs: What the Data Show

The published evidence fails to support the use of topical nonsteroidal anti-inflammatory drugs (NSAIDs) for long-term benefit in visual acuity outcome after routine cataract surgery, an

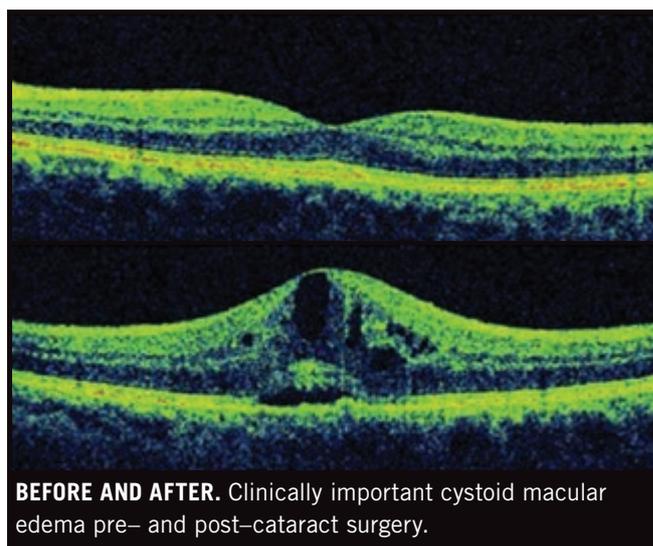
Academy *Ophthalmic Technology Assessment (OTA)* has concluded.

The authors reported that, although topical NSAIDs appear to offer short-term benefits, there was no conclusive evidence that the drugs led to better visual outcomes at 3 months or more after surgery.¹

“The goal of an *OTA* is always to try to objectively analyze the literature and determine what constitutes best evidence,” said study coauthor Stephen J. Kim, MD, associate professor of ophthalmology and visual sciences at Vanderbilt University, in Nashville, Tenn.

“Visual acuity over the long term is ultimately the most important outcome of cataract surgery, and our analysis of the literature indicates that there’s no conclusive evidence of a long-term benefit with routine NSAID use in cataract surgery,” Dr. Kim said.

Methods. The authors reviewed 15 studies that they deemed to have a sound methodologic design and sufficient sample size. Ten were randomized controlled trials comparing CME incidence after use of prophylactic corticosteroids alone to NSAIDs alone or together with corticosteroids. Six of



BEFORE AND AFTER. Clinically important cystoid macular edema pre- and post-cataract surgery.

the controlled studies met the requirements for producing level I evidence and 4 for level II. Among the limitations identified by the *OTA* panel, the studies

- Often differed in their definition of CME and in how it was measured (angiography versus optical coherence tomography).

- Lacked sufficient sensitivity in assessing functional visual acuity.

- Sometimes compared the NSAID-treated eyes to those treated with a corticosteroid with poor corneal penetration or that were

inadequately dosed.

- Did not support claims of a synergistic effect from combining a corticosteroid and an NSAID.

Dr. Kim emphasized that the panel limited its assessment to routine cataract procedures and did not evaluate short-term visual outcomes. “The *OTA*’s findings apply to those patients who have no risk factors and relatively healthy eyes, who are undergoing routine cataract surgery,” he said.

In the clinic. Because many cataract surgeons already prescribe NSAID

eyedrops for all patients, this OTA might face challenges in clinical acceptance, Dr. Kim said. “This runs against common practice for the majority of cataract surgeons, so it may be controversial.” He noted that during a wide review process to gain input for the

OTA, one group provided feedback that the majority of their members routinely prescribed NSAIDs and felt they had a benefit for patients.

The OTA acknowledges that in routine cases, the topical application of an NSAID for 3 days before surgery reduces CME and

improves early visual acuity.

“Patient satisfaction in the short term and faster recovery time in the window of the first 4 weeks may have value in certain patients, and we do acknowledge that in our report,”

Dr. Kim said. “But there is no conclusive evidence that

this practice affects long-term visual outcomes.”

—Linda Roach

1 Kim SJ et al. *Ophthalmology*. June 2, 2015 [Epub ahead of print].

Relevant financial disclosures—Dr. Kim: None.

Neuromyelitis Optica

New Criteria for Earlier, More Accurate Dx of NMO

Recently revised diagnostic criteria for neuromyelitis optica (NMO), now called neuromyelitis optica spectrum disorder (NMOSD), should make it easier for ophthalmologists to identify optic neuritis caused by this inflammatory disease of the central nervous system.¹ The spectrum disorder can affect the optic nerves, brainstem, spinal cord, and brain.

“Eye M.D.s are in an important position to recognize this disease [NMOSD] at presentation,” said Mayo Clinic neurologist Dean M. Wingerchuk, MD, FRCPC, who cochaired an international panel that developed the criteria.

The new criteria are expected to facilitate earlier and more accurate diagnosis by helping doctors identify individuals who might otherwise have been diagnosed with idiopathic transverse myelitis, idiopathic optic neuritis, or atypical multiple sclerosis, said Dr. Wingerchuk, professor of neurology, and chair of the Division

of Multiple Sclerosis and Autoimmune Neurology, at the Mayo Clinic in Scottsdale, Ariz.

The criteria. The 2015 diagnostic criteria outline a stratified diagnosis based on the presence or absence of serum aquaporin-4 immunoglobulin G antibodies (AQP4-IgG), which are highly specific for NMOSD. Most—though not all—patients with NMO have detectable serum antibodies that target AQP4-IgG. The new criteria address both sets of patients, and they establish more stringent diagnostic criteria for cases in which the antibodies are not detectable or for which the diagnostic blood test is not available. (Diagnostic criteria for both groups are presented in the Web Extra that accompanies this article at www.eyenet.org.)

“Now a diagnosis of NMOSD with AQP4-IgG can be confidently made, even if a patient has experienced neither optic neuritis nor transverse myelitis,” said Dr. Wingerchuk.

These new diagnostic criteria should help to increase awareness of NMOSD and allow diagnosis after a single clinical event, if a patient is AQP4-IgG seropositive. For those who are not seropositive, the new criteria also explicitly describe the clinical and MRI features of the disease. Those features have been expanded to include abnormalities of the brainstem, diencephalon, and brain.

Challenging cases. “Ophthalmologists must be aware of NMOSD when seeing patients with optic neuritis, whether it is a first, apparently isolated, event or occurring in the context of other neurological symptoms,” Dr. Wingerchuk said. “More severe events of optic neuritis—those with poor recovery, bilateral optic nerve or chiasmatic involvement, and primary involvement of the posterior aspect of the optic nerve—are clues that the optic neuritis event could be caused by NMOSD.” When confronted with a challenging diagnosis, he advised ophthalmologists to consider further diagnostic evaluation such as brain and orbital MRI and serum AQP4-IgG testing.

Treat early. He added that, if warranted, the ophthalmologist should consider referral to a center with

NMOSD experience because seropositive patients are candidates for immediate long-term immunosuppressive therapy to prevent attacks. “The point is to facilitate early treatment because AQP4-IgG seropositive patients who have had even one attack are at high risk for relapse and disability. Long-term immunotherapy is indicated,” he said.

Dr. Wingerchuk expressed the hope that new scientific advances will make it easier to diagnose patients with NMOSD who don’t have detectable AQP4-IgG antibodies and, thus, are more diagnostically difficult than seropositive patients.

For now, he said to be aware that NMOSD encompasses more than optic neuritis and transverse myelitis. “Ophthalmologists should consider the [NMOSD] diagnosis and diagnostic testing when faced with central nervous system inflammatory disease of wider spectrum, including the brain.”

—Miriam Karmel

1 Wingerchuk DM et al. *Neurology*. 2015;85(2):177-189.

Relevant financial disclosures—Dr. Wingerchuk: Alexion: C,S; MedImmune: C; TerumoBCT: S. All are companies that do research on NMOSD treatments.

Epidemiology Update

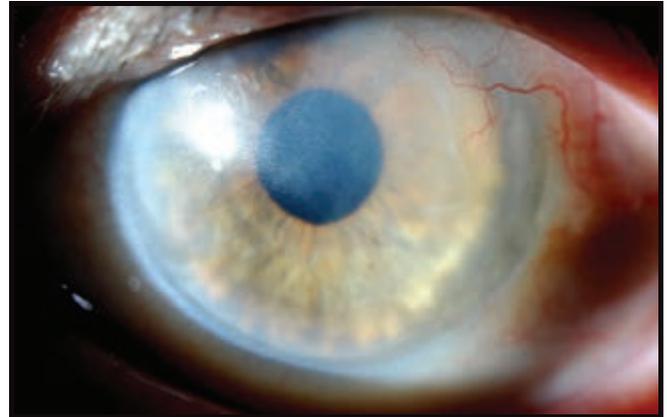
HZO Hits Younger Patients

Since finishing his cornea fellowship in 1993, James Chodosh, MD, has noticed a dramatic change in the age distribution of patients with herpes zoster ophthalmicus (HZO). This ophthalmic manifestation of shingles results from a reactivation of varicella-zoster virus, which remains dormant in the nerve tissue of people who had chickenpox. “Back then, we almost never saw a patient with shingles under the age of 55,” he said. “Today, we see healthy patients in their 30s, 20s, and even late teens.”

The review. To further explore these clinical impressions, Dr. Chodosh and colleagues conducted a retrospective chart review of 913 patients with acute HZO presenting to the Massachu-

setts Eye and Ear Infirmary from 2007 through 2013.¹ During this period, the number of patients with HZO nearly tripled, increasing from 71 to 195 cases. And the mean age of patients with HZO decreased from 61.2 years to 55.8 years.

The number of patients in the study with a known immune deficiency remained fairly consistent. What, then, could explain these significant changes—similar to those identified in a study published earlier this year in *Cornea*?² Although the hypothesis is difficult to prove, Dr. Chodosh suspects that the 2-dose chickenpox vaccine may be to blame: Fewer adults are achieving natural immunological boosts because they have less exposure to chil-



HZO. Patient with chronic herpes zoster keratitis.

dren with chickenpox.

Protect patients. Even though most insurance plans don't pay for the shingles vaccine until age 60, Dr. Chodosh strongly recommends vaccination by age 50; the FDA indication was lowered from age 60 to 50 years and older in 2011. This is especially important, he said, because ophthalmic shingles can be a lifelong—even blinding—condition that's very difficult to treat. “However, those with an active ocular inflammatory dis-

ease from shingles—or a history of one—should avoid the shingles vaccination, which in anecdotal reports was associated with the exacerbation of ocular inflammation.”

—Annie Stuart

1 Davies EC et al. *Br J Ophthalmol*. July 15, 2015 [Epub ahead of print].

2 Chan AY et al. *Cornea*. 2015; 34(5):535-540.

Relevant financial disclosures—Dr. Chodosh: None

Pediatric Ophthalmology Report

Steroid Overuse in India

A study of childhood glaucoma in India presents sobering statistics on blindness in children treated with topical steroids.¹ While the socio-medical conditions may not be generalizable to other cultures, it is a cautionary tale for ophthalmologists on the dangers of steroid overuse.

The study. The retrospective analysis was conducted after researchers saw a surge

in steroid-induced glaucoma (SIG) at their tertiary care clinic. The rise appears to correspond to an increase in vernal keratoconjunctivitis (VKC), for which the steroids were prescribed.

The findings. Two-thirds of the children presenting with SIG were blind in either one or both eyes. What's more: Ophthalmologists, not parents medicating their children with over-the-coun-

ter steroid eyedrops, were primarily to blame.

“We found many ophthalmologists prescribing steroids to children, in some cases for up to 8 years, and not monitoring them for glaucoma,” said coauthor Viney Gupta, MD, professor of ophthalmology at All India Institute of Medical Sciences, in Delhi.

Why? Cost is one factor for inappropriate steroid use. Dexamethasone, the most commonly prescribed topical steroid, costs 2 cents (U.S.) per bottle in India. Tacrolimus ointment, a better option, costs 2 U.S. dol-

lars per tube. In addition, many ophthalmologists seem unaware of alternative steroid-sparing therapy, perhaps partly because the parents do not file medical negligence lawsuits, said Dr. Gupta.

He stressed that children with VKC require close monitoring for SIG because they are more likely to be steroid responders than non-VKC children. —Miriam Karmel

1 Gupta S et al. *Br J Ophthalmol*. May 22, 2015 [Epub ahead of print].

Relevant financial disclosures—Dr. Gupta: None

For the financial disclosure key, see page 8. For full disclosures, including category descriptions, view this News in Review at www.eyenet.org.