

# Cancer treatment controls macular edema related to diabetes and to cataract surgery

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This month's *Ophthalmology*, the journal of the American Academy of Ophthalmology, reports on use of bevacizumab (Avastin), to benefit diabetic patients with macular edema as well as people who develop cystoid macular edema after cataract surgery. Bevacizumab is also used to treat some cancers. Another study describes methods that could make cataract surgery safer for diabetic retinopathy (DR) patients. DR is the major threat to vision in working-age people, a problem that will only intensify if cases triple by 2050 as predicted.

## **New Treatment Succeeds after Laser Fails in Diabetic Patients; Treatment also Controls Cystoid Macular Edema after Cataract Surgery**

DR damages the light-sensitive retina at the back of the eye, the area that transmits images to the [optic nerve](#). In [type 2 diabetes](#) patients, retinopathy vision loss most often results from macular edema (DME), swelling and thickening of the macula in the retina's center. Laser treatment is usually able to reduce vision loss, but widespread, diffuse DME (DDME) is often resistant to laser and other standard treatments.

Treating DMME with bevacizumab (Avastin), an anti-vascular endothelial growth factor (anti-VEGF) medication that inhibits abnormal blood vessels, was studied in 115 patients (139 eyes) by the Pan-American Collaborative Retina Study Group, led by J. Fernando Arevalo, MD, of the Caracas Central Ophthalmologic Clinic, Venezuela. Within one month of the initial intravitreal bevacizumab (IVB) injections, improvement could be detected. By the end of the 24 month follow-up period vision had improved in 51.8 percent of eyes, and 97.1 percent of eyes were either stable or improved. No serious adverse effects occurred.

The Pan-American Collaborative Retina Study Group also reviewed the use of [bevacizumab](#) in patients with post-[cataract surgery](#) cystoid macular edema (CME) who had not responded to standard

treatment. Twenty to 30 percent of all cataract surgery patients develop CME, in which the macula swells as fluid-filled cysts form. Usually the condition resolves without treatment and causes no permanent vision loss, but in a small percentage of patients vision remains worse than 20/40 and treatment is needed. Standard treatments include steroids, non-steroidal anti-inflammatories (NSAIDs), other medications, or surgery.

The researchers reviewed the records of 31 patients (36 eyes) who were treated with at least one IVB injection and followed for 12 months between 2005 and 2007. At the study's outset the mean best-corrected visual acuity was 20/200, and at 12 months the mean was 20/80. Most eyes (72.2 percent) improved and the rest remained stable (27.8 percent). Macular thickness also decreased in most eyes. Patients who received two or more injections were significantly more likely to improve. No adverse systemic or vision side effects or outcomes were reported.

"Large, randomized controlled clinical trials are needed to confirm IVB's efficacy and safety in treating these conditions," Dr. Arevalo said. "The results for DMME are very promising and suggest that combining anti-VEGF treatment with laser therapy may prove useful." He added, "Also, once further study is completed, unresolved CME post-cataract surgery should be considered for inclusion as an indication for use of IVB." "

## **Extra Precautions Needed with Cataract Surgery for DR Patients**

Before 1996, retinopathy often developed or progressed rapidly in diabetic patients following cataract surgery. In the past decade the less-invasive phacoemulsification method has reduced cataract surgery complications in general, but the impact on [diabetic retinopathy](#) has been unclear. A clinic-based cohort study (2004 to 2006) led by Jie Jin Wang, MMed, PhD, at the Centre for Vision

Research, University of Sydney, Australia, followed 169 diabetic patients aged 65 years and older for 12 months post-cataract surgery. Forty-five of these patients had surgery in just one eye.

Overall, DR developed or progressed in about one-third of operated eyes compared with about one-fifth of non-operated eyes. In the 45 patients for whom fellow eye comparisons were made, DR progressed in 35.6 percent of operated eyes versus 20 percent of non-operated eyes. Research on older cataract surgery methods had reported DR progression in 37 to 38 percent of eyes within 12 to 18 months of surgery; phacoemulsification is somewhat less likely to stimulate DR progression, the new study suggests. Dr. Wang cautions that patients who need cataract surgery may simply be at greater risk for DR progression, because both conditions are related to poor control of diabetes. Cataract may be a marker for greater DR severity or increased risk of progression.

"Although our results should not argue against cataract surgery in older people with diabetes, clinicians need to recognize the DR risk, treat active DR preoperatively—for example, use laser treatment to control macular edema—and closely monitor diabetes and DR after [cataract surgery](#)," Dr. Wang said.

Source: American Academy of Ophthalmology

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