

# Ophthalmology *Update*

A professional courtesy of Lansing Ophthalmology

## Cataract Surgery Outcomes in Glaucomatous Eyes

Cataracts and glaucoma, 2 age-related conditions that often coexist, are the leading causes of visual impairment worldwide. Treatment of both has become increasingly relevant in aging veterans. Not only does cataract surgery make up 85% of all ophthalmic procedures performed in the U.S. Veterans Health Administration system, but glaucoma and cataracts trail only refractive error among eye diagnoses in veterans undergoing routine eye examinations.

Information on the association, if there is any, between cataract surgery and glaucoma has been limited to investigations relating to changes in intraocular pressure (IOP). Turalba et al from the Veterans Affairs Boston Healthcare System, Massachusetts (*Am J Ophthalmol* 2015), conducted a retrospective cohort study to compare cataract surgery outcomes in patients with (n equals 608) and without (n equals 4306) glaucoma.

The authors abstracted data from the Veterans Affairs Ophthalmic Surgery Outcomes Database Pilot Project to study clinical outcomes of cataract surgery from a large population of veterans with and without glaucoma. All cases reviewed by the authors took place at 1 of 5 U.S. Veterans Affairs hospitals. Best-corrected visual acuity (BCVA) and Visual Function Questionnaire (VFQ) scores

improved at 1 month after cataract surgery (p less than .001); however, greater improvements were seen in the nonglaucoma cohort in terms of BCVA and VFQ composite scores (p equals .01 and p less than .001, respectively). After adjusting for age, pseudoexfoliation, small pupils, prior ocular surgery and anterior chamber depth, the rates of postoperative inflammation, high IOP and further eye surgery within 30 days were greater in the glaucoma group. In the glaucoma cohort study, a smaller percentage of patients achieved a postoperative BCVA of 20/40 or better than in the nonglaucoma cohort study (89.6% vs 94.1%, respectively).



Despite the visual improvements experienced by many patients after cataract surgery, patients with glaucoma appear to be at a higher risk of complications. Further studies are needed to identify prospective factors that influence the outcome of cataract surgery in eyes with glaucoma.

## Post-LASIK Ectasia Association with the Percentage of Anterior Tissue Depth Altered

In retrospect, most patients who develop ectasia following laser-assisted in situ keratomileusis (LASIK) had identifiable risk factors, specifically irregular topographic patterns, placing them at a higher risk for complications. On the other hand, it remains unclear how ectasia occurs in patients



## Type 2 Diabetes Mellitus and Associated Risk of OAG

Open-angle glaucoma (OAG) is a leading cause of blindness, affecting more than 66 million people around the world. Multiple population-based studies have discovered that prevalence rates and severity of glaucoma differ among racial and ethnic groups. The Los Angeles Latino Eye Study (LALES) reported that U.S. Latinos have a high prevalence (4.7%) of OAG, especially significant since Latino people constitute the largest (12.5%) and fastest-growing ethnic or racial minority group in the United States.

Common risk factors connected to OAG include increasing age, elevated intraocular pressure, family history and race; however, the connection between diabetes mellitus (DM) and OAG remains uncertain.

Chopra et al from the University of Southern California (Ophthalmology 2008) conducted a population-based study using data from the LALES to better understand the relationship between type 2 DM (T2DM) and the risk of OAG in Latino adults (at least 40 years of age or older). LALES employed these criteria:

\*DM: treatment for DM, a glycated hemoglobin level of at least 7% or a random blood glucose level of at least 200 mg/100 mL

\*T2DM: diagnosis of DM at 30 years of age or older

\*OAG: presence of an open angle along with a glaucomatous visual field abnormality and/or evidence of glaucomatous optic disc damage presented in at least 1 eye

with normal preoperative topography. Santhiago et al from the Federal University of Rio de Janeiro, Brazil (Am J Ophthalmol 2014), conducted a case-control study to compare percent tissue altered, a new metric that describes the percentage of anterior tissue depth altered, with other recognized risk factors for post-LASIK ectasia in eyes with normal corneal topography.

The authors evaluated 30 eyes from 16 patients in the ectasia group and 174 eyes from 87 consecutive patients in the control group. The most prevalent factors seen among the ectasia group were:

- \*percent tissue altered 40 or greater (97%)
- \*under 30 years of age (63%)
- \*residual stromal bed of 300 micrometers (57%) or less
- \*Ectasia Risk Score System at 3 or greater (43%)

Although this study was small, these results provide evidence to support the association of percent tissue altered with post-LASIK ectasia in eyes with normal corneal topography. This measure should be taken into account as a screening parameter for refractive surgery candidates.

Of the 5894 participants in the study cohort, 19.6% had T2DM and 4.9% had OAG; the prevalence of OAG was 40% higher in T2DM patients. In addition to finding that the presence of T2DM was an independent risk factor for OAG in the Latino population, the authors found a correlation between longer duration of T2DM and higher prevalence of OAG.

While the authors' findings provide some ground breaking clarity regarding whether DM is a risk factor for OAG, additional data will help further assess the risk of developing OAG in patients with T2DM.



# Lansing Ophthalmology

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## Save the Date - Public Seminars

Lansing Ophthalmology is offering two free public seminars. Please encourage your patients who are interested in these topics to attend.

### Free Cosmetic Seminar

Presentation by Charles Rice, M.D. and Craig Lewis, M.D., Board Certified Oculoplastic Surgeons

Tuesday, April 12, 2016  
6 pm - 7:30 pm  
MSU's Henry Center  
3535 Forest Rd., Lansing

To register a seat, please call 517/337-1789 and press 2.

### Free Cataract Seminar

Presentation by Lansing Ophthalmology's Cataract Surgeons

Wednesday, May 18, 2016  
6 pm - 7:30 pm  
Kellogg Center  
219 S. Harrison Rd., East Lansing

To register a seat, please call 517/336-2998.

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