CORRESPONDENCE

Diabetes Alone Does Not Impair Recovery From Uneventful Cataract Surgery

EDITOR:

WE HAVE READ THE PAPER PUBLISHED BY DANNI AND ASSOciates[1] with great interest. Cataract surgery still remains the most commonly performed ophthalmic procedure, and its leading complication is pseudophakic cystoid macular edema (PCME). To this date, patients with diabetes mellitus (DM) were considered to be particularly predisposed to this pathology. This was linked to microangiopathy, a typical complication of DM. According to statistics, approximately 4% of patients with DM present with postoperative macular edema (relative risk [RR] = 13.5).[2] However, this proportion increases to 10%-12% in patients with nonproliferative diabetic retinopathy (NPDR) or proliferative diabetic retinopathy (PDR), and even up to 20%-50% in individuals with preoperative diabetic macular edema (DME).[3] Thus, appropriate evaluation of diabetic retinopathy severity is a key to assess the risk of PCME. The results of a Finnish study conducted by Danni and associates[1] provide additional important information on this topic, referring in particular to the population of patients with normal fundus and excellent metabolic control of DM. The Finnish researchers demonstrated that postoperative monotherapy with corticosteroids or nonsteroidal anti-inflammatory drugs (NSAIDs), or combination therapy, prevented PCME in patients with DM. The study revealed differences in the effectiveness of the treatment in various patient populations. Postoperative corticosteroid monotherapy was shown to be more effective in patients with DM than in nondiabetic controls (central retinal thickness [CRT] $+7.8 \pm 6.6$ μm vs $+38.1 \pm 72.8$ μm, $P = .01$). However, irrespective of the group, the obtained outcomes were comparable when the combination therapy with corticosteroids and NSAIDs was implemented after cataract surgery (CRT $+2.9 \pm 3.2$ μm vs $+3.6 \pm 4.1$ μm, $P = .606$). Moreover, the authors observed a nonsignificant difference in the incidence of PCME in nondiabetic and diabetic patients (3.2% vs 1.8%, $P = 1.000$). They explained this observation by the fact that patients with DM routinely received systemic vasoactive therapy.

Interpreting those findings, one should keep in mind the results published by Modjtahedi and associates.[4] Those authors confirmed the efficacy of combination therapy (NSAIDs/corticosteroids) in the prevention of PCME in healthy (RR 0.68, 95% confidence interval [CI] 0.58-0.72) and diabetic patients without retinal complications of DM (RR 0.51, 95% CI 0.32-0.82). They did not observe the expected beneficial effect in patients with NPDR (RR 1.06, 95% 0.81-1.38). The same study showed that patients with more severe retinal complications presented with higher concentrations of HbA1c (5.9 in healthy controls vs 6.9 in patients without DR vs 7.6 in NPDR group). The lack of expected protective effect of the combination treatment in patients with NPDR was probably a consequence of severe vascular damage observed already prior to the cataract surgery.[5] The ineffectiveness of the treatment in the prevention of PCME in patients with NPDR subjected to cataract surgeries implies that perioperative administration of NSAIDs may also not produce a therapeutic benefit in individuals with PDR and DME.

To summarize, based on the recent studies the beneficial effects of combination therapy with corticosteroids and NSAIDs in the prevention of PCME seem to be limited to a specific group of diabetic patients, probably those who despite an inadequate metabolic control of DM did not develop NPDR and DME.

ANDRZEJ GRZYBOWSKI
Olsztyn, Poland, and Poznan, Poland
JOANNA ADAMIEC-MROCZEK
Wroclaw, Poland

FUNDING/SUPPORT: THE STUDY WAS PARTLY FUNDED BY Foundation for Ophthalmology Development "Ophthalmology 21," Poznan, Poland. The funding agencies had no role in the design or conduct of this study; collection, management, analysis, or interpretation of the data; preparation, review, or approval of the manuscript; or decision to submit the manuscript for publication. Financial Disclosures: Andrzej Grzybowski reports grants, personal fees, and nonfinancial support from Bayer; grants and nonfinancial support from Novartis; nonfinancial support from Alcon; nonfinancial support from Thea; nonfinancial support from Santen; and personal fees and nonfinancial support from Valeant, outside the submitted work. Joanna Adamiec-Mroczek has no financial disclosures.

Dr. Adamiec-Mroczek reports personal fees from Bayer, personal fees from Novartis, non-financial support from Alcon, outside the submitted work.

All authors attest that they meet the current ICMJE requirements to qualify as authors.

REFERENCES

1. Danni R, Taipale C, Ilveskoski L, Tuuminen R. Diabetes alone does not impair recovery from uneventful cataract surgery. *Am J Ophthalmol* 2019;198:37–44.
2. McCafferty S, Harris A, Kew C, et al. Pseudophakic cystoid macular edema prevention and risk factors; prospective study with adjunctive once daily topical nepafenac 0.3% versus placebo. *BMC Ophthalmol* 2017;17(1):16.
3. Chen XY, Song WJ, Cai HY, Zhao L. Macular edema after cataract surgery in diabetic eyes evaluated by optical coherence tomography. *Int J Ophthalmol* 2016;9(1):81–85.

0002-9394/$36.00
https://doi.org/10.1016/j.ajo.2018.11.026

4. Modjtahedi BS, Paschal JF, Batech M, Luong TQ, Fong DS. Perioperative Topical Nonsteroidal Anti-inflammatory Drugs for Macular Edema Prophylaxis Following Cataract Surgery. *Am J Ophthalmol* 2017;176:174–182.

5. Grzybowski A, Adamiec-Mroczek J. Topical Nonsteroidal Anti-inflammatory Drugs for Cystoid Macular Edema Prevention in Patients With Diabetic Retinopathy. *Am J Ophthalmol* 2017;181.