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Can J Ophthalmol 2019;54:401–402
0008-4182/17/$-see front matter
https://doi.org/10.1016/j.jcjo.2018.08.021

Response to Choroidal thickness changes after cataract surgery

Dear Editor:—We would like to thank Venkatesh and Bavaharan for their interest in our work.

1) We agree with their suggestion regarding systemic variables having an impact on choroidal thickness. It has indeed been reported that having certain comorbidities are associated with a change in choroidal thickness. Hypertension is associated with a decrease in choroidal thickness,[1] and diabetes mellites has been found to coexist with a thinner choroid as compared to normal controls.[2] Furthermore, hypercholesteremia and obesity have interestingly been linked with an increase in choroidal thickness.[3,4] However, due to the sample size of our study, we were unable to assess statistically multiple variables which can potentially affect the choroidal thickness. Future studies with larger sample size should take into account systemic factors such as hypertension, diabetes, hyperlipidemia or even states such as pregnancy to evaluate the role of these variables in choroidal thickness change.
2) We also agree that stress and anxiety associated ocular surgery may have a negative impact on choroidal permeability and may affect choroidal thickness change. Future studies in which patients are randomized to topical steroids arm vs non-steroidal anti-inflammatory eye drops can better inform us about the true affect of increased choroidal permeability secondary to steroid drops.

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Can J Ophthalmol 2019;54:402
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https://doi.org/10.1016/j.jcjo.2019.04.006

Vitrectomy in diabetic macular edema

Dear Editor:

We read with great interest the article by Michalewska et al[1] titled "Vitrectomy in the management of diabetic macular edema in treatment-naïve patients". The authors in their study have discussed the advantages of early vitrectomy in diabetic macular edema. However, we have a few comments to make regarding the methodology and the interpretation of results in this study.

1) The authors in this current study do not have a strict visual acuity criterion for including patients in the study. The DRCR.net study evaluating the role of vitrectomy in diabetic macular edema had a well-defined visual acuity criterion [20/63 − 20/400] in their study.[2,3] So, most patients with thicker macula were excluded from their study.

2) Forty-one percent of the cases (18/44) in the current study had vitreo-macular interface abnormalities. The higher preoperative central retinal thickness and poorer presenting visual acuity in this study could have been due to the presence of high number of cases with vitreo-macular interface abnormalities. Also, subgroup analysis of eyes with and without vitreo-retinal interface abnormalities similar to that described by Bonnin et al[4] would have made the study results more robust.
3) Further prospective studies would be needed for better defining the importance of vitrectomy in diabetic macular edema by including the vitrectomy alone, antivegf alone and combination of vitrectomy and antivegf treatment arms.

To conclude, the role of vitrectomy in diabetic macular edema needs to be studied further with prospective randomized control trials.

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Can J Ophthalmol 2019;54:402–403

https://doi.org/10.1016/j.jcjo.2018.09.010

Response to Vitrectomy in diabetic macular edema

Dear Editor:—We thank Dr. Tripathy for his interest in our manuscript and we welcome this opportunity to address his questions.

Diabetic macular edema (DME) develops in approximately 30% of patients who have had diabetes for more than 20 years and constitutes a major cause of visual impairment worldwide.[1] Identifying treatments that can effectively treat DME is critical to managing the increasing number of affected patients.

The main difference between ours and previously published vitrectomy studies is that we included only treatment-naïve eyes. Patients enrolled in our study were neither randomized to treatment nor were they consecutively seen in our clinic. Treating surgeons tended to treat patients with better prognoses (better baseline visual acuity and less ischemia) with anti-vascular endothelial growth factor (VEGF) injections, whereas patients with worse prognoses were offered vitrectomy. This helps explain why our patients' initial visual acuities were worse than those usually seen in clinical trials. However, we believe that the impressive average visual acuity improvements among our patients suggest a role for vitrectomy in the initial treatment of DME in eyes with poor initial vision. In our study, vitrectomy for DME was both safe and durable with more than 80% of patients experiencing improvement in visual acuity.[2]

Since ours was a retrospective study, follow-up visits after six months were not scheduled consistently and longer term follow-ups were not always available. For this reason, we chose six months as the primary temporal endpoint. This strategy allows our data to be directly compared to the anti-VEGF trials, in which the six-month visual acuity results are universally available and do not differ significantly from those at 12 months. A recent study presented the long-term (mean follow-up of 37 months) results of vitrectomy for center-involving DME in previously treated and treatment-naïve eyes. The mean visual acuity improved from 20/100 to 20/63 at month twelve (N=53)[3].

The visual acuity numbers in Table 1 are correct but unfortunately the wrong number was included in the discussion. In Europe, visual acuities are usually measured on the decimal scale and an error may have occurred when these were converted to Snellen fractions.

We agree that optic nerve function and diagnostic tests for glaucoma may be of interest in diabetic patients but we did not include optical coherence tomography measurements of the nerve fiber layer in the study protocol. Seki and coworkers found that patients with proliferative diabetic retinopathy and coexisting renal dysfunction are at high risk of developing optic atrophy after vitrectomy[4] and vitrectomy for macular holes or epiretinal membranes may be associated with a decrease in retinal nerve fiber layer thickness.[5] We agree that nerve fiber layer damage may occur during surgery and encourage future researchers to investigate this.

Based on the data from ours and many other studies, we believe that a multicenter, randomized, clinical trial comparing the efficacy, safety, and cost of vitrectomy versus intravitreal anti-VEGF therapy is warranted.

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