Author Response: The Association between Glaucoma Prevalence and Supplementation with the Oxidants Calcium and Iron

We thank Drs. Shaikh, Yu, and Coleman for identifying the typographical errors in the tables. It is noteworthy that these errors have no impact on our study findings. Unrelated to the typographical errors, the authors propose an alternative definition of glaucoma for National Health and Nutrition Examination Survey (NHANES) study subjects, which may diminish the likelihood of detecting true risk factors for the disease by reducing the number of study subjects deemed to have glaucoma. We hope that the authors will submit their entire analysis for peer review, such that we may better understand their methodology and results once the work is published in full. It is noteworthy that since the publication of our article,1 Patty and colleagues2 have shown that in a large prevalence survey of glaucoma, self-reporting was found to be highly specific for the disease, thereby, lending support to our methodology.

Shaikh et al.'s comment that their findings “suggest that the knowledge of a glaucoma diagnosis may drive supplement use, as is found in other diseases” is puzzling to us as we are unaware of anyone in the ophthalmic community proposing that supplementation with iron and/or calcium is potentially protective against the development or progression of glaucoma. Thus, we believe it to be unlikely that patients would take high doses of these two oxidants, specifically, relative to other supplements for purposes of preventing glaucomatous disease. Notwithstanding the obvious limitations that we noted in our article, we stand by our methodology and believe that our initial finding of approximately 7-fold increased odds of self-reported glaucoma among those consuming the highest quintiles of calcium and iron warrants further study. As with any such initial analysis that proposes a novel risk factor for a disease such as glaucoma, the initial findings may or may not be confirmed when using datasets from other cross-sectional and longitudinal studies; thus, we were careful not to make any recommendations regarding high dose iron or calcium consumption at the present time in our article.

We applaud Drs. Shaikh, Yu, and Coleman for taking the initiative to perform another analysis on the same NHANES dataset using their definitions of disease and an alternate methodology. We look forward to reading additional details if they submit their work for peer-reviewed publication. It is not unusual for different groups of authors to find varying results using alternate methodologies when assessing large datasets such as NHANES. There are even examples of the same group finding somewhat different results using multiple analyses on the same dataset to address the same scientific issue, as has been the case with the Advanced Glaucoma Intervention Treatment Study (AGIS).3,4 Studies such as NHANES and AGIS are supported by taxpayer funds, and the data from such studies should be accessible in the public domain, such that those who wish to propose alternate methodologies to look at the data should have the opportunity do so as Shaikh et al. have done with NHANES.

Kuldev Singh1
Sophia Wang2
Shan Lin2

1Department of Ophthalmology, Stanford University School of Medicine, Palo Alto, California; and the 2Department of Ophthalmology, University of California, San Francisco, California.

E-mail: lins@vision.ucsf.edu

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