Taiwan J Ophthalmol 2018;8:56-57

Reply to comment on: "Ocular manifestations of sickle cell disease and genetic susceptibility for refractive errors"

Dear Editor,

We thank Dr Joob and Wiwanitkit[1] for the interest shown in our paper[2] and for the comment. Three points are emphasized. The first one is in relation to the ocular manifestation observed in our study compared to the ocular manifestations observed in Egyptian children.[3] The natural history of sickle cell anemia in India is entirely different from Africa. Co-inheritance of alpha thalassemia, presence of higher fetal hemoglobin levels, and autochthonous Arab-Indian haplotype are the important features of the Indian sickle cell disease (SCD).[4] This could be one of the reasons why we did not see more ocular manifestations in this study. The second issue that was highlighted is the lack of control of confounding factors in our paper. Our study is designed to identify the prevalence of refractive and cylindrical errors along with some retinal changes in Indian SCD patients, but not for validating the cause and effect. Further, in our study, we included only hemoglobin SS patients; hence, we could not investigate the proportion of the ocular problems in other hemoglobin disorders. The third issue highlighted by those concerned is about the analysis of genetic markers. Several hypothesized candidate genes for myopia have been reported; however, no candidate genes have been shown to account for even a modest fraction of the familial risk of myopia.[5] The main driving force behind the analysis of NOS3 27-bp variable number tandem repeat (VNTR) and interleukin-4 70-bp VNTR in our study is because of the changes in the expression of nitric oxide synthase and other inflammatory cytokines on the adherence of sickled cells to vascular endothelium.[6,7] Although there are limitations and much remains to be done, our paper not only provide clinical experience to ophthalmologists about SCD associated ocular complications but also remind the readers that NOS3 VNTR contributes to the susceptibility to development of myopia in SCD patients.

Ethical approval

The study was conducted in accordance with the Declaration of Helsinki and was approved by the local ethics committee of the institute. Informed written consent was obtained from all patients prior to their enrollment in this study.

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Nil.

Conflicts of interest

The authors declare that there are no conflicts of interests of this paper.

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