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EDITORIAL (BY INVITATION)

Editorial to: visual field after anti-vascular endothelial growth factor therapy and laser treatment for retinopathy of prematurity

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The *Graefe's Archives of Clinical and Experimental Ophthalmolmology* is the journal that published one of the first scientific reports on visual field loss following tissue destructive treatment of premature children with retinopathy of prematurity (ROP) [1]. The report has accelerated interest and research on visual field and peripheral vision development in ROP children. Most of the outcome data come from follow-up measurements years after retinal cryo- or laser therapy. The recent advent of anti-VEGF (vascular endothelial growth factor) intravitreal therapy in ROP has brought hope of tissue sparing treatment that addresses vascular pathobiology of the disease. Intravitreal anti-VEGF drug injection was reported to be effective for ROP treatment [2] even though the disease recurrences following monotherapy are known and not infrequent.

The reports studying visual field and peripheral vision following anti-VEGF therapy for ROP are lacking. Similarly, more reports are needed on central vision and progression of myopia after injection monotherapy which is common in this condition. The reasons for this gap include difficulties in randomization to treatment protocols, collection of reliable and reproducible data of visual field testing in children, adherence to a meaningful follow-up, and influence of multiple biases.

The publication in this issue of the journal entitled *Visual Field after Anti-Vascular Endothelial Growth Factor Therapy and Laser Treatment for Retinopathy of Prematurity* by Obata et al. [3] reports on all above-mentioned outcomes in one study. The comparison between patients who as infants received either laser therapy or anti-VEGF for ROP revealed that eyes having received injection monotherapy had significantly wider visual fields, lower myopia and better but not statistically significant visual acuity than eyes with prior laser photocoagulation. Of interest is the observation that the visual field was relatively preserved in eyes even after laser treatment—an important finding in real-world clinical practice. Therefore, the margin of clinical difference in visual field preservation between laser and injection therapy may be narrower than previously anticipated.

The study, as acknowledged by the authors, has numerous limitations. The most impactful are probably the retrospective data collection and a very small sample size basically ending up comparing 5 versus 6 patients due to already-mentioned factors. While this may undermine the study outcomes at this point, the report can be considered a hypothesis-generating report that can serve for future, more rigorous, investigations of these important vision related outcomes. As such, the authors should be commended on these initial observations.

References

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