Commentary: Continuation of care - Refraction beyond regression

Retinopathy of prematurity (ROP) is a disease like none other. It affects a specific strata of the population, premature babies, who are affected at a very specific time. Its screening and treatment, however, is very effective, as timely treatment can have excellent outcomes with near complete resolution of the disease. On the other hand lack of screening and treatment can render a baby blind. An all-or-none phenomenon unlike any other. With an increasing number of premature babies being born with improving survival, the need for ROP management is set to increase in the future.[1] The treatment options for ROP has improved by leaps and bounds – from CryoROP to ETROP and to BEAT ROP. The initial use of cryotherapy to ablate avascular retina moved on to use of laser, which today is the standard of care. BEAT ROP introduced the use of bevacizumab in posterior ROP.[2] The changing modalities have shown improving anatomical and visual outcomes in children.

Parents and treating doctors heave a sigh of relief once disease is well regressed. But the management of ROP does not end there. Long term visual rehabilitation is the key to achieving optimal visual outcomes. In the article "Refractive, Sensory and Biometric outcome among ROP children with a history of laser therapy- A Retrospective review from a tertiary care centre in South India", the authors highlight the long term refractive concerns in babies successfully treated for ROP.[3] Certain delayed complications such as cataract, glaucoma and retinal detachment, in addition to refractive errors and strabismus necessitate lifelong follow-up of babies treated for ROP. A baby successfully treated for ROP can still have suboptimal visual outcomes if refractive errors go uncorrected or if secondary complications are not addressed.

Laser for ROP has long been recognised to cause more refractive errors in treated babies than in babies born preterm but not needing laser. The follow-up of the BEAT-ROP cohort at 2 years showed there was significantly less refractive error in babies who had received bevacizumab vs those receiving laser, along with better preservation of visual field.[4] Use of bevacizumab, is currently recommended for posterior disease - in zone 1 or posterior zone 2. While satisfactory ocular outcomes are well established, the effect of anti VEGF on developing tissue in other organ systems is not known. Literature has some reports that have shown an increased incidence of psychomotor delays in babies receiving bevacizumab when compared with those who had received laser treatment[5], while another report from a sub set of the BEAT ROP cohort did not report any developmental issues.[6] A modality of treatment that allows ocular growth and vascularisation to progress unhampered without any systemic or neurodevelopmental concerns is the desired panacea for ROP. Until then, not just resolution of disease but refraction for optimal visual outcomes is the mantra for all!

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