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Intravitreal bevacizumab compared with diode laser in stage 3 posterior retinopathy of prematurity: A 5 year follow up

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Introduction: Retinopathy of prematurity (ROP) is a potentially blinding eye disorder occurring in premature infants. Vascular endothelial growth factor (VEGF) is central to its pathogenesis. The use of anti-VEGF agents has become an alternative treatment in some babies.

Methodology: We concluded a prospective randomized trial in 15 babies, gestation 24-26 weeks and birth weight 500-1000 grams. We compared diode laser in one eye to Intravitreal bevacizumab in the fellow eye in stage 3 plus disease in zone 1 and posterior zone 2 of the retina. We recorded regression, recurrence, vision, refraction and toxicity.

Findings: The bevacizumab treated eyes showed rapid regression of ROP with resolution of plus disease and flattening of the ridge at 48 hours post injection. Retinopathy of prematurity recurred in four eyes of babies treated with intravitreal bevacizumab. These were successfully treated with laser or a repeat injection of bevacizumab. At 5 year follow up, the bevacizumab treated eyes are less myopic compared with the diode laser treated eyes. All 15 infants had magnetic resonance imaging (MRI) of brain performed, and there were no changes or adverse effects that could be attributed to the bevacizumab therapy.

Conclusion: Bevacizumab is an effective treatment for halting ROP, and appears to be safe in a dose of 1.65mg in 0.1ml. Refractive outcomes are more favorable in bevacizumab treated eyes. There were no ocular or systemic adverse effects attributed to bevacizumab therapy. There was a recurrence of ROP in four eyes and they required repeat bevacizumab or laser. Eyes treated with bevacizumab require follow up to sixty weeks post menstrual age. At five years we encountered no ocular or systemic side effects.

Biography

Sarah Moran is a Specialist Registrar in Ophthalmic Surgery in Ireland with numerous published research articles and multiple national and international presentations in the area of ophthalmic surgery.

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