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Outcomes of intravitreal bevacizumab injection versus conventional laser as first line treatment in stage III retinopathy of prematurity

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Purpose: To evaluate the outcomes of Intravitreal Bevacizumab (IVB) mono-therapy compared with conventional laser therapy in preterm infants with stage III and plus disease retinopathy of prematurity (ROP) who had zone I or II posterior disease.

Patients and methods: This is a prospective randomized comparative interventional pilot study. Twenty four eyes of twelve preterm infants suffering from ROP were included. All eyes had bilateral stage III ROP with "plus disease" affecting zone I or zone II posterior. Infants were assigned to receive conventional laser therapy in their right eyes and IVB in their left eyes. Follow up period was 6 months following treatment.

Results: The study included five females and seven males. The gestational ages ranged from 26 to 33 week (mean=29 weeks), and the birth weights ranged from 750 to 1390 gram (g) (mean=1005 g). The postmenstrual age at which threshold ROP was detected ranged between 34 and 41 week (w) (mean=36.75 w). All the 24 eyes had stage III ROP with plus disease, 10 eyes had zone I while the other 14 eyes had zone II posterior. Regression of neovascularization occurred in all 24 eyes following both treatment modalities and remained stable during follow-up. No local or systemic side effects of bevacizumab were observed, and no further treatment was necessary.

Conclusion: IVB injection seems to be as effective as conventional laser in treating stage III ROP. It provides the advantages of preservation of peripheral visual field and the complete peripheral retinal vascularization.

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