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: MODIFICATION OF COMBINED MEDICAL THERAPY TO ACHIEVE RETINAL VASCULOGENESIS IN AGGRESSIVE RETINOPATHY OF PREMATURITY– AN FFA-BASED STUDY

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Aggressive Retinopathy of Prematurity (A-ROP), particularly in Zone 1, poses a formidable therapeutic challenge due to its rapid progression, high recurrence rates, and the delicate balance between timely intervention and long-term retinal development. Conventional monotherapies, whether anti-VEGF or laser alone, often fall short of achieving both rapid disease regression and complete, physiological retinal vascularization. While anti-VEGF therapy is effective in halting neovascular activity, it carries the risk of late recurrence and incomplete vasculature, whereas laser treatment, though definitive, may compromise peripheral retinal development. There is thus a growing need for treatment strategies that not only arrest disease progression but also support angiographically verifiable vasculogenesis. In this context, our study evaluates a novel modification of combined medical therapy designed to address these dual objectives in infants with Zone 1 A-ROP.

This prospective interventional case series included 10 eyes of 5 infants diagnosed with Zone 1 A-ROP. Each eye received a modified combination therapy of Intravitreal Anti-VEGF followed by laser photocoagulation. Fundus Fluorescein angiography (FFA) was done to confirm retinal vascularisation on last followup.

All treated eyes demonstrated rapid disease activity cessation and gradual, physiological retinal vascularization over time. None of the eyes required additional treatment or developed post-intervention complications. FFA confirmed retinal vasculogenesis on last follow up.

Physiological retinal vasculogenesis remains a challenge while treating babies with zone 1 A-ROP. Our modification of combined medical therapy for zone 1 A-ROP, promotes physiological retinal vasculogenesis, apart from rapid disease activity cessation, with minimal risk of disease reactivation, and can prove to be a reliable treatment protocol in such cases.