

Retinopathy of Prematurity

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Introduction

Retinopathy of prematurity (ROP) is a significant cause of childhood blindness worldwide (1), particularly in low-resource settings. The factors that increase the risk of ROP include sepsis, birth weight, oxygen requirement, red blood cell (RBC) transfusion etc [2, 3]. ROP affects retinal vascular and capillary proliferation affecting premature infants undergoing oxygen therapy (4).

We present the case of a 28-week gestational age premature infant who developed severe ROP and was successfully managed with laser therapy. Regular monitoring, early identification, and early intervention are crucial factors in the management of ROP (5).

Case Report

A female premature infant was born at 28 weeks of gestation with a birth weight of 850 grams by spontaneous birth. Baby has developed respiratory distress syndrome and needed respiratory support in the form of ventilation and continuous positive airway pressure (CPAP) for 3 weeks. The mother has been ill and the baby developed signs of sepsis for which she was treated with intravenous antibiotics for 7 days. The baby needed supplemental oxygen for another 3 weeks. The baby had routine ROP screening at four weeks of age, which revealed stage 2 ROP in zone II of the retina.

The baby was monitored closely, but at six weeks of age, the ROP progressed to stage 3 with plus disease, indicating the need for treatment. Due to limited resources, laser therapy was the only available treatment option. The infant underwent

laser therapy, with 1300 burns applied to the avascular retina in both eyes.

The baby was monitored closely for complications, including infection and retinal detachment, but none were observed. The infant was weaned off oxygen therapy and CPAP and was discharged at 10 weeks of age. Follow-up examinations at one month and three months post-treatment revealed regression of ROP without any residual avascular retina or complications.

Discussion

ROP is a significant concern in premature babies who need oxygen for a prolonged period of time. It happens in babies below 32 weeks gestation and those below 1500 grams at birth.

ROP and the developing blood vessels in premature eyes are graded according to the stage of severity (stages 1-5) and according to the location in the retina (zones 1-3) and these are standards used internationally (6).

Most babies with retinopathy stage 1 or stage 2 will need no intervention and live with normal vision. Since the disease progressed to stage 3 and was progressive, treatment was required. Laser therapy is effective and is applied to the peripheral retina where blood vessels are developing. The overall aim of laser therapy is to turn off the production of a chemical message produced by the retina called the Vascular Endothelial Growth Factor (VEGF); this molecule drives the formation of damaging blood vessels.

Laser therapy can be associated with a higher risk of complications, such as inflammation and scarring, and requires specialized equipment and trained

personnel.

Although cryotherapy and the use of blocking antibodies 'anti-VEGF injection into the eye to turn off VEGF production are other options, this case responded to laser.

Conclusion

ROP is a significant cause of childhood blindness that requires timely screening and appropriate management. Although there are various options, laser therapy is still a good option for managing moderate to severe ROP. Early detection and appropriate management of ROP are critical to prevent permanent vision loss and promote long-term visual health. Further research and innovation in screening and treatment strategies for ROP are needed to improve outcomes particularly in low-resource settings.

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