

Management of Retinopathy of Prematurity (ROP) in Premature Infants

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DESCRIPTION

Retinopathy of Prematurity (ROP) is a leading cause of blindness in premature infants worldwide. The management of ROP is crucial to prevent or reduce the severity of visual impairment in affected infants. This article will discuss the current management strategies for ROP, including screening, laser therapy, and anti-VEGF therapy.

Screening

Screening for ROP is a critical component of its management. The American Academy of Pediatrics recommends that all infants born before 30 weeks' gestation or with a birth weight less than 1500 grams should be screened for ROP. The timing and frequency of screening depend on the gestational age and birth weight of the infant. Typically, screening begins at four to six weeks after birth and continues until the retinal vasculature has fully developed [1].

Screening involves the use of an ophthalmoscope to examine the retina for signs of ROP, such as abnormal blood vessel growth or neovascularization. The severity of ROP is classified into five stages based on the extent of retinal involvement, and the presence of plus disease, which refers to the dilation and tortuosity of retinal vessels.

Laser therapy

Laser therapy, also known as photocoagulation, is the primary treatment for ROP. The goal of laser therapy is to ablate the peripheral retina, reducing the production of Vascular Endothelial Growth Factor (VEGF), which is the primary factor responsible for neovascularization in ROP.

Laser therapy is typically performed on infants with type 1 ROP, which is characterized by stage 3 ROP with plus disease or stage 2 ROP with plus disease that has not regressed after two weeks of observation. The procedure is performed under general anesthesia, and a laser beam is used to create burns in the peripheral retina. The goal is to ablate the retina without causing significant damage to the central vision [2].

Anti-VEGF therapy

Anti-VEGF therapy is a relatively new treatment option for ROP. It involves the use of drugs that block the action of VEGF, thus preventing the growth of abnormal blood vessels in the retina. Anti-VEGF therapy is typically reserved for infants with severe ROP who do not respond to laser therapy or who have contraindications to laser therapy, such as dense cataracts or vitreous haemorrhage [3].

Two anti-VEGF agents, bevacizumab, and ranibizumab, have been used in the treatment of ROP. These drugs are administered *via* intravitreal injection and can be effective in reducing the severity of ROP and preventing visual impairment. However, the long-term safety of anti-VEGF therapy in infants is not yet fully understood, and there are concerns about potential systemic side effects [4].

Follow-up and monitoring

Infants with ROP require close follow-up and monitoring to ensure timely intervention and management of the disease. The frequency and duration of follow-up depend on the severity of ROP and the response to treatment. Infants who receive laser therapy or anti-VEGF therapy require frequent ophthalmic examinations to monitor for recurrence or progression of the disease.

Long-term monitoring is also essential to assess the visual function and development of affected infants. Infants with ROP are at risk of developing amblyopia or lazy eye, a condition in which one eye has reduced visual acuity due to abnormal visual development. Early intervention with occlusion therapy or glasses can improve visual outcomes in these infants.

CONCLUSION

ROP is a significant cause of visual impairment in premature infants. Early detection and timely intervention are crucial to preventing or reducing the severity of the disease. Screening, laser therapy, and anti-VEGF therapy are the mainstays of ROP management, and close follow-up and monitoring are essential to ensure optimal visual.

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Received: 30-Jan-2023; **Manuscript No.** PTCR-23-22219; **Editor assigned:** 01-Feb-2023; **PreQC.** No. PTCR-23-22219 (PQ); **Reviewed:** 15-Feb-2023; **QC.** No. PTCR-23-22219; **Revised:** 22-Feb-2023; **Manuscript No.** PTCR-23-22219 (R); **Published:** 01-Mar-2023, DOI: 10.35841/2161-0665.23.13.493.

Citation: Fukuda S (2023) Management of Retinopathy of Prematurity (ROP) in Premature Infants. *Pediatr Ther.* 13:493.

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REFERENCES

1. Larsson E, Holmström G. Screening for retinopathy of prematurity: Evaluation and modification of guidelines. *Br J Ophthalmol.* 2002;86(12):1399-1402.
2. Gunay M, Sukgen EA, Celik G, Kocluk Y. Comparison of bevacizumab, ranibizumab, and laser photocoagulation in the treatment of retinopathy of prematurity in Turkey. *Curr Eye Res.* 2017;42(3):462-469.
3. Tah V, Orlans HO, Hyer J, Casswell E, Din N, Sri Shanmuganathan V, et al. Anti-VEGF therapy and the retina: An update. *J Ophthalmol.* 2015 Oct;2015.
4. Yonekawa Y, Wu WC, Nitulescu CE, Chan RP, Thanos A, Thomas BJ, et al. Progressive retinal detachment in infants with retinopathy of prematurity treated with intravitreal bevacizumab or ranibizumab. *Retina.* 2018;38(6):1079-1083.