Idaho Project for Children and Youth
with
Deaf-Blindness

Fact Sheet

Retinopathy of Prematurity

Retinopathy of Prematurity (ROP) is a disease of the retina which can affect prematurely-born babies, according to information from the National Eye Institute (www.nih.gov/rop). Today, with advances in neonatal care, smaller and more premature infants are being born. These infants are at a much higher risk for ROP. Not all babies who are premature develop ROP. There are approximately 3.9 million infants born in the U.S. each year; of those, about 28,000 weigh 2 ¾ pounds or less. About 14,000 - 16,000 of these infants are affected by some degree of ROP. About 90 percent of all infants with ROP are in the milder category and do not need treatment. However, infants with more severe disease can develop impaired vision or even blindness. About 1,100 – 1,500 infants annually develop ROP that is severe enough to require medical treatment. About 400 – 600 infants each year in the U.S. becomes legally blind from ROP.

During the last 12 weeks of a full term pregnancy, the eye experiences active growth. When a baby is born prematurely, blood vessels may not be ready to supply blood to the retina. Abnormal new blood vessels can form and can leak, causing scaring or, in severe case, detachment of the retina. This is especially evident in very small babies weighing one to three pounds and / or born before 30 weeks gestation. In the past premature babies were provided with excessive amounts of oxygen, which was thought to inadvertently cause further deterioration in the blood vessels. Presently, less emphasis is placed on this concern, as is it known that the vision loss may actually be caused by other factors, and physicians ensure that there is a balance between the amounts of oxygen given with the appearance of the blood vessels to prevent further deterioration.

There are varying degrees of ROP, which are categorized by severity (degree of abnormal vascular response), location (on the retina), and extent (time). The effects of ROP can vary as well, ranging from normal vision to blindness. Symptoms of ROP ca disappear or increase. In many cases, (approximately 90%) the child's vision gets better without any treatment. In other case, ROP can be progressive and can lead to total blindness. Since ROP can follow an unpredictable course, physicians have been faced with difficult decisions regarding providing treatment, which consist of Cryo-therapy (freezing) or laser (heat) treatment. Treatment prevents the progression of the disease. Although it may result in some partial loss of peripheral vision, this is in many cases considered worthwhile, as treatment can preserve the central vision, which is the clearest. Due to lack of clinical criteria to predict which children would ultimately develop severe vision loss from ROP, physicians were forced to defer treatment until it was clearly indicated based on the progression or the disease. Unfortunately, as it turns out, delaying therapy could leave infants who might benefit more from early treatment with poor visual outcomes.

An important clinical trial sponsored by the National Eye Institute and the National Institute of Health has provided physicians with improved prognostic indicators and treatment options for treatment of ROP. The study titled: "Early Treatment of Retinopathy of Prematurity", published in the December issue of the "Archives of Ophthalmology", demonstrated that premature infants, who are at highest risk for developing vision loss from ROP, will retain better vision when therapy is administered in the early stages of the disease. The criteria used to determine if the child was high risk included birth weight, gestational age, ethnicity, being a single or multiple birth babies, ophthalmic exam findings and whether the infant had been born in a hospital that participated in the study. This approach was found to be better than waiting for the infant to reach the traditional treatment threshold (considered to be nearing the 50% risk factor for having retinal detachment). In this study, early treatment was found to reduce the likelihood of structural damage to the eye from 15.6 percent to 9.1 percent.

Children with ROP are also considered to be at a higher risk for developing certain eye problems (some occurring in later life), such as retinal detachment, myopia (nearsightedness), strabismus (crossed eyes), amblyopia (lazy eye), and glaucoma. In many cases, less serious problems can be treated or controlled. Glasses, patching, and eye muscle surgery may help.

If you would like more information, please contact the Idaho Project for Children and Youth with Deaf-Blindness:

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Fact sheets from the Idaho Project for Children and Youth with Deaf-Blindness (IPCYDB) are to be used by both families and Professionals serving individuals with dual-sensory impairments. The information applies to students 0-22 years of age. The purpose of the fact sheet is to give general information on a specific topic. More information for an individual student can be provides through individualized technical assistance available for IPCYDB. This fact sheet is a starting point for further information.

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Information for this Fact Sheet kindly supplied by the Indiana Deafblind Services