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CENTER OF EXCELLENCE FOR PREVENTION
OF CHILDHOOD BLINDNESS
Bringing sight to children's eyes

Retinopathy of Prematurity



Early treatment of ROP will prevent your child from visual impairment or blindness.

the armenian eyecare project

All premature infants need to undertake eye screenings by an ophthalmologist (or eye specialist) to look for any signs of ROP.

It is extremely important to follow exactly all the instructions and examinations appointed by your ophthalmologist. Remember... The treatment of the ROP is the most effective when performed on time.

Retinopathy of Pre

Retinopathy of prematurity (ROP) is a potentially blinding eye disorder that primarily affects premature infants weighing less than 1,5 kg at birth or born more than eight weeks early.

ROP occurs when abnormal blood vessels grow and spread throughout the retina, the tissue that lines the back of the eye. These abnormal blood vessels are fragile and can leak, scarring the retina and pulling it out of position.

The smaller a baby is at birth, the more likely that baby is to develop ROP. Infants with ROP are considered to be at higher risk for developing certain eye problems later in life, such as retinal detachment, myopia (nearsightedness), strabismus (crossed eyes), amblyopia (lazy eye), and glaucoma. In many cases, these eye problems can be treated or controlled.

Required Procedures

All premature infants need to undertake eye screenings by an ophthalmologist (or eye specialist) to look for any signs of ROP. The first screening examination should be done when your baby is between four and six weeks old. Some babies will need only one examination although most babies need at least two.

About an hour before the examination, eye drops are put in the eye to make the pupil open widely so the retina can be seen. The ophthalmologist examines

maturity

the retina using an ophthalmoscope (or sometimes a camera) placed gently on the surface of your baby's eye. They may also use a speculum (to hold the eyelid open) and an indenter (to rotate the eye) to enable a better view of the retina.

Research has suggested that wrapping your baby firmly or giving sucrose drops can help keep babies calm during the eye examination.



What happens if ROP is found?

This depends on how serious it is. ROP is classified in five stages, ranging from mild to severe.

Stage I — Mildly abnormal blood vessel growth. Many children who develop stage I improve with no treatment and eventually develop normal vision. The disease resolves on its own without further progression.

Stage II — Moderately abnormal blood vessel growth. Many children

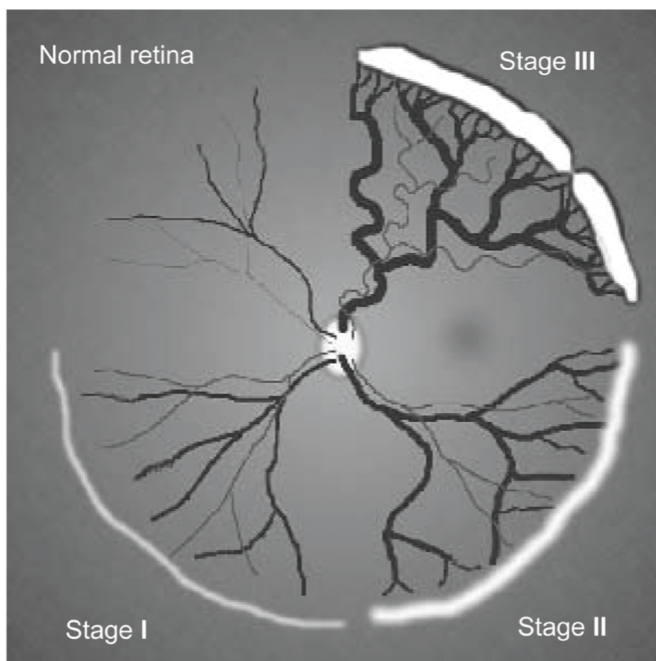
who develop stage II improve with no treatment and eventually develop normal vision. The disease resolves on its own without further progression.

Stage III — Severely abnormal blood vessel growth. The abnormal blood vessels grow toward the center of the eye instead of following their normal growth pattern along the surface of the retina. Some infants who develop stage III improve with no treatment and eventually develop normal vision. However, when infants have a certain degree of Stage III and “plus disease” develops, treatment is considered. “Plus disease” means that the blood vessels of the retina have become enlarged and twisted, indicating a worsening of the disease. Treatment at this point has a good chance of preventing retinal detachment.

The diagram illustrates how ROP develops, usually progressing over time from Normal to Stage I through Stages II and III. Mild ROP of Stages I and II are very common and settle on their own. Only a small proportion of babies develop plus disease and Stage III which is more serious. The white line is the ROP. With each stage the line is thicker because of the formation of very fine and abnormal new blood vessels.

Stage IV — Partially detached retina. Traction from the scar produced by bleeding, abnormal vessels pulls the retina away from the wall of the eye.

Stage V — Completely detached retina and the end stage of the disease. If the eye is left alone at this stage, the



baby can have severe visual impairment and even blindness.

Most babies who develop ROP have stages I or II. However, in a small number of babies, ROP worsens, sometimes very rapidly. Untreated ROP threatens to destroy vision.

If ROP is mild, there will need to be a follow-up examination one to two weeks later. If the follow-up examination shows it has not become worse, the ROP will settle on its own. More severe ROP will require an earlier re-examination, usually in a week. If your baby requires treatment at any stage the ophthalmologist will talk to you to explain exactly what will happen.

Treatment

Severe ROP needs to be treated quickly to prevent further damage. This will usually be within 48 hours of the severe ROP being diagnosed although it maybe a little longer if your baby has to be transferred. The most effective proven treatments for ROP are laser therapy or cryotherapy. Laser therapy “burns away” the periphery of the retina, which has no normal blood vessels. With cryotherapy, physicians use an instrument that generates freezing temperatures to briefly touch spots on the surface of the eye that overlie the periphery of the retina.

After treatment your baby is likely to be given some antibiotic and steroid eye drops to prevent infection and reduce swelling. An appointment will be made for an eye examination about a week later when the ophthalmologist will check if the treatment has stopped the abnormal blood vessels developing. In most babies one treatment is effective. In a very few cases, a second treatment will be needed around 2-3 weeks later.



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