Zietchick Research Institute: Hormones Are Linked To Eye Disease In Premature Girls

High levels of luteinizing hormone are linked with the preemie eye disease-retinopathy of prematurity-in female infants

PLYMOUTH, MI, U.S., June 18, 2020 /EINPresswire.com/ -- Zietchick Research Institute has found a link between high levels of luteinizing hormone and severe eye disease in premature girls. The eye disease they studied, in collaboration with university professors, is called retinopathy of prematurity. This disease is commonly referred to as ROP. Retinopathy of Prematurity, or ROP, is a serious eye disorder that afflicts babies who are born very early. It is especially prevalent in infants who are born more than 2.5 months prematurely. ROP can potentially cause a lifetime of blindness as well as other visual disabilities in both boys and girls.

Research in this area is very important. By identifying the multitude of causes of ROP, we can find ways to help prevent it. This exciting finding by the Zietchick researchers may lead to new ways to promote better eye health for premature infants. In the 1950s, retinopathy of prematurity was called retrolental fibroplasia. Back then, the excessive administration of oxygen to preemies was held responsible for development of the disease. Over the years, it has been shown that oxygen can cause this disease. Because of this, the amount of oxygen given to premature infants has been markedly decreased. However, ROP still occurs. It is a complex disease. It is not caused by one factor alone. Many factors such as hormones, in addition to oxygen, may also participate in the pathogenesis of ROP.

Luteinizing hormone is essential for the health of reproductive organs in both women and men. The effect of this hormone on other organs have not been fully elucidated. Over the last several years, Zietchick Research Institute has been conducting a lot of exciting research on luteinizing hormone. They have been studying how luteinizing hormone may influences the health of the eyes and the kidneys. Dr. Tammy Movsas, the principal investigator of this study, explains that levels of luteinizing hormone are higher than normal in preemies. The reason for this is not yet clear. In this study, Dr. Movsas and her team found that when the levels become too high in preemie girls, it is associated with development of a severe form of ROP. This association between luteinizing hormone and ROP does not seem to occur in preemie boys. This suggests that the development of preemie eye disease in boys and girls may be influenced by different factors.

Zietchick Research Institute explains that when babies are born very early, their retinas are not yet fully developed. The retina is the inner layer of the eye that receives light and turns it into visual messages that are sent to the brain. Usually the retina continues to develop during all nine months of pregnancy. In preemies, blood vessels of the retina have to develop while the baby is outside the womb. This process does not always proceed normally. ROP is a preemie eye disease that is characterized by the abnormal development of retinal blood vessels Blindness can occur if pathologic blood vessels pull on the baby's retina and cause it to detach. The current standard of care is to screen very premature infants for this disease at approximately 1 or 2 months after birth. There are some treatments available for the advanced stages of ROP.

This study has been published this month (June 2020) in the Journal of American Association of Pediatric Ophthalmology and Strabismus (JAAPOS). It is currently available online and will be available in print version within the next few months. Zietchick Research Institute is a private, social mission research institute, classified as an L3C (low profit, LLC). In other related work, Zietchick Research Institute has recently found that levels of luteinizing hormone are also linked with levels of growth factors in both the eyes and the kidneys. The growth factor that they focus on is called vascular endothelial growth factor. This is the growth factor responsible for most angiogenesis--that is, the formation of new blood vessels. They intend to pursue additional research in this arena to study the inter-relationships between hormones, growth factors and organ development. They are optimistic that their work will improve the short-term and long-term health of premature infants.

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