

Antioxidant shown to reduce blindness risk in extremely premature babies

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Retinopathy of prematurity (ROP) is the second most common cause of childhood blindness in the United States, occurring in half of premature infants born earlier than or at 28 weeks gestational age. The condition is caused by abnormal blood vessel development in the retina of the eye. ROP risk increases with decreasing gestational age.

A study by researchers at Brigham and Women's Hospital (BWH) suggests that the antioxidant, rhSOD (recombinant human Cu/Zn superoxide dismutase), reduces the risk of developing ROP in extremely low [gestational age](#) newborns.

The post-hoc analysis study will be published online on June 15, 2012 in *Neonatology*.

Researchers looked at a subset of data from a previous multicenter trial that randomized 302 [preterm infants](#) to receive either rhSOD or placebo for prevention of bronchopulmonary dysplasia (a chronic lung condition that affects newborn babies). Researchers analyzed the data looking specifically at the incidence and severity of ROP in extremely low gestational age newborns.

Within the entire cohort, there were no significant differences in ROP in newborns given placebo versus those given rhSOD. However, those born earlier than 26 weeks (72 babies) had a 22 percent reduction in ROP. The abnormality was reduced by 53 percent for babies born earlier than 25 weeks (24 babies).

"Even though strides have been made in developing interventions to stop ROP from progressing to blindness, there are currently no therapies available for ROP prevention," said Richard Parad, MD, BWH Department of Newborn Medicine, lead study author. "There is a large need for the preventive approach that rhSOD could potentially provide."

The researchers note that while looking at ROP was not the primary outcome for which the prior study was designed, this post-hoc analysis was carefully re-focused on the tiniest babies with the highest ROP risk based on recent advances in the understanding of how ROP develops and on evidence from prior studies of other antioxidants that suggested such agents might interfere with development of ROP.

In light of the findings, the researchers stress that further studies are required to confirm their observations.

Provided by Brigham and Women's Hospital

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