

Research to evaluate treatment strategies for perinatal brain injury

Researcher from Women & Infants Hospital receives 2 grants from NIH

Care New England

Perinatal brain injury often results in severe developmental disabilities, including neurodevelopmental delay and cerebral palsy. Furthermore, three to five per 1,000 infants experience brain injury caused by hypoxia-ischemia (HI), or insufficient blood flow to cells and organs, at birth. The resulting neurodevelopmental disabilities can place a lifelong burden on parents and society.

Toward determining the most effective treatment strategies for full-term and premature infants exposed to HI and other perinatal brain injury, Barbara Stonestreet, MD, a neonatal-perinatal specialist at Women & Infants Hospital of Rhode Island, a Care New England hospital, and professor of pediatrics at The Warren Alpert Medical School of Brown University, has received two two-year grants totaling \$881,100 from the National Institutes of Health. The grants are entitled, "Beneficial effects of inter-alpha inhibitors in fetal brain injury" and "Inter-alpha inhibitors: Novel neuroinflammatory modulator of neonatal brain injury." Collaborating with Dr. Stonestreet on these programs will be Yow-Pin Lim, MD, PhD, founder and CEO of ProThera Biologics. ProThera Biologics is pioneering the application of Inter-alpha inhibitor proteins (IAIPs) to severe inflammatory diseases including HI. In addition, Xiaodi Chen, MD, PhD who is a member of Dr. Stonestreet's team and an assistant professor at Brown, has significantly contributed in writing these grants.

IAIPs are known to be effective in modulating inflammatory responses. However, Dr. Stonestreet explained, there is limited information regarding the neuroprotective properties of IAIPs, which could be beneficial in treating full-term and premature infants suffering from perinatal brain injury.

Dr. Stonestreet said, "These studies have exciting translational potential for an important new treatment strategy to prevent or decrease brain injury in infants at risk for brain damage, mental retardation or cerebral palsy."

Dr. Lim added, "ProThera is extremely pleased to be collaborating on this critical work. This is such an unmet medical need, and Dr. Stonestreet and her team of researchers at Women & Infants Hospital are world leaders in addressing the needs of these patients."

About Women & Infants Hospital

Women & Infants Hospital of Rhode Island, a Care New England hospital, is one of the nation's leading specialty hospitals for women and newborns. A major teaching affiliate of The Warren Alpert Medical School of Brown University for obstetrics, gynecology and newborn pediatrics, as well as a number of specialized programs in women's medicine, Women & Infants is the 12th largest stand-alone obstetrical service in the country and the largest in New England with approximately 8,500 deliveries per year. A Designated Baby-Friendly® USA hospital, U.S. News & World Report 2014-15 Best Children's Hospital in Neonatology and a 2014 Leapfrog Top Hospital, in 2009 Women & Infants opened what was at the time the country's largest, single-family room neonatal intensive care unit.

Women & Infants and Brown offer fellowship programs in gynecologic oncology, maternal-fetal medicine, urogynecology and reconstructive pelvic surgery, neonatal-perinatal medicine, pediatric and perinatal pathology, gynecologic pathology and cytopathology, and reproductive endocrinology and infertility. It is home to the nation's first mother-baby perinatal psychiatric partial hospital, as well as the nation's only fellowship program in obstetric medicine.

Women & Infants has been designated as a Breast Imaging Center of Excellence by the American College of Radiography; a Center of Excellence in Minimally Invasive Gynecology; a Center of Biomedical Research Excellence by the National Institutes of Health (NIH); and a Neonatal Resource Services Center of Excellence. It is one of the largest and most prestigious research facilities in high risk and normal obstetrics, gynecology and newborn pediatrics in the nation, and is a member of the National Cancer Institute's Gynecologic Oncology Group and the Pelvic Floor Disorders Network.

About ProThera

ProThera Biologics, Inc. is a Rhode Island-based bio-therapeutics Company pioneering the development of innovative products based on Inter-alpha Inhibitor Proteins (IAIPs). The Company was founded in 2001 to focus on the critical role and commercial potential of IAIPs for treating acute, life-threatening inflammatory diseases. IAIPs are a family of naturally occurring proteins found in high concentration in human plasma and play an important role in the regulation of host immune response. Led by Yow-Pin Lim, MD, PhD and Denice Spero, PhD, the company is backed by the Slater Technology Fund and has received continuous funding from the National Institutes of Health with Phase I and II Small Business Innovation Research (SBIR) grants over the past 10 years.