

Gravens By Design: The International Newborn Brain Conference

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Advances in understanding and treating various problems in high-risk neonates have followed different trajectories depending on the organ system being studied. Improvements in respiratory care were the most dramatic changes seen in neonatology’s early days and continue today at a more gradual pace. The same is true of our understanding of sepsis, nutrition, and jaundice. The newborn brain remained largely a “black box” in the early days of neonatology. Still, the pace of advances has steadily increased as both our understanding and our ability to intervene have broadened. Whereas one could stay up to date on neurodevelopmental and neurocritical care with targeted sessions at general neonatology conferences in the past that is no longer the case; an annual conference focused on brain care is essential to keep up with new developments and controversies.

The International Newborn Brain Conference was created to meet this need, bringing researchers and clinicians together to promote rapid dissemination of the most important developments in care and to provide a forum for the most pressing clinical dilemmas. The 13th iteration of this meeting was held virtually February 9-12, 2022, and welcomed a record number of almost 400 participants from more than 70 countries. Abstract submissions also doubled the previous record, illustrating how rapidly the science in this area is advancing. These abstracts will be published in an upcoming issue of the Journal of Neonatal-Perinatal Medicine.

The challenges of treating infants with hypoxic-ischemic encephalopathy (HIE) received considerable attention. Dr. Alistair Gunn reviewed recent studies that showed that our current practice of cooling at 33.5°C for 72 hours remains the proper strategy for moderate or severe HIE; using shorter or longer courses, higher or lower temperatures, or a longer time for the rewarming phase did not improve outcomes. He also reviewed the status of a number of other adjunctive treatments, including recombinant erythropoietin and melatonin, concluding that none have shown sufficient promise yet for clinical adoption. “Therapeutic creep” in the use of hypothermia for infants with mild HIE was also explored in depth at this meeting. There is still insufficient evidence on which to affirm or reject its value, and the conduct of a randomized trial has

proven to be difficult. Counseling families, already a challenge in babies with HIE, is especially difficult in this setting.

Many other topics in neurocritical and neurodevelopmental care were covered during this meeting, including updates on the management of seizures and posthemorrhagic hydrocephalus, new evidence on the importance of sleep hygiene in the newborn, and a review on the various forms of brain monitoring, including continuous EEG, near-infrared spectroscopy, functional MRI, and biochemical markers.

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