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Advances in Neonatal Hypoxic–Ischemic Brain Injury

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Message from the Guest Editor

Death and disability in children worldwide have their origin predominantly in the neonatal period and mainly arise from perinatal asphyxia and preterm birth. Birth asphyxia, leading to the clinical presentation of hypoxic–ischemic encephalopathy (HIE), affects to a large extent the term-born population, but preterm infants can also be affected. Prognosis following HIE and other types of neonatal brain injury including stroke is particularly poor. Despite remarkable advances in perinatal care, diagnosis and therapy of neonatal brain injury remain a challenge, and therapies are largely supportive. The only established clinical intervention for HIE is therapeutic hypothermia demonstrating reductions in risk of death or impairment. However, 40–50% of cooled infants still suffer from major neurological problems, and in preterm infants, therapeutic hypothermia cannot be applied due to side effects. In recent years, established and new preclinical models have elucidated mechanisms promoting our understanding of neonatal brain injury, but unanswered questions remain.



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Special Issue



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