

Special Issue

Rescue Therapies and Molecular Mechanisms of Perinatal Brain Injury

Message from the Guest Editors

This special edition will focus on understanding the mechanisms of perinatal brain injury and the related development or optimization of therapies for perinatal brain injury. The specific causes of perinatal brain injury include hypoxic-ischemic encephalopathy (HIE), infection/inflammation and preterm birth. Therapeutic hypothermia is now well established to improve normal survival after moderate to severe HIE in term and near-term infants. However, many will still develop brain injury despite hypothermia. Moreover, it is not currently available for preterm infants, in the developing world most infants develop spontaneous hypothermia anyway, and there is emerging evidence that infection-sensitized hypoxia-ischemia may respond less well to therapeutic hypothermia. The challenge is now to identify therapies whose mechanisms of action are different to and complementary with those of hypothermia to further improve outcomes. Better understanding the mechanisms underlying the evolution of perinatal brain injury will help to rationally identify potential therapeutic targets for future studies.

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