



Embracing the Diversity of Perinatal Brain Injury: Molecular Mechanisms and Novel Therapeutics 2022

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Message from the Guest Editors

Perinatal brain injury (PBI) includes, but is not limited to, hypoxic-ischemic encephalopathy (HIE), intraventricular hemorrhage, periventricular leukomalacia, and encephalopathy of prematurity. It affects both preterm and term neonates and is a reflection of diverse and complex etiologies as well as initiating insults. The pathophysiology of CNS injury following PBI reflects a combination of multiple insults, including (1) inflammation from prenatal infection and/or hypoxia-ischemia (HI); (2) individualized risk from genetic/congenital disorders; (3) acquired prenatal exposures to drugs and toxins; (4) gut microbiota and nutritional status; and (5) postnatal stresses such as sepsis and surgery. The cumulative effect of PBI results from a cascading impact on neurodevelopment and presents unique challenges to repair that are distinct from the mature CNS. Notably, response to injury within the context of the constantly evolving, incompletely formed platform of the developing CNS demands individualized and precision medicine approaches coupled with rigorous molecular and cellular mechanistic evaluation of the unique pathophysiology and mechanisms of disease.





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Message from the Editor-in-Chief

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