



biomedicines



Special Issue Reprint

Brain Injury and Neurodegeneration: Molecular, Functional, and Translational Approach 2.0

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The brain encompasses numerous kind of cells, such as, neurons, astrocytes, microglia, oligodendrocytes, pericytes, and endothelial cells, etc., which have specific structures and functions, as well as an integrated role in CNS homeostasis. For example, glial cells—especially astrocytes and microglia—respond to immunological clues, secrete chemokines/cytokines/growth factors, perform phagocytosis, and support the neurons and vasculature of the CNS. Any insult to the brain, such as in the case of a traumatic brain injury, causes neuroinflammation that leads to chronic traumatic encephalopathy (CTE) and other neurodegenerative diseases. Environmental and occupational factors, such as blast, can also cause neuroinflammation and cognitive impairment. Addiction to alcohol and tobacco or hormones can afflict brain health in many ways. In addition, the health of other organs such as oral health and microbiota has a great impact on neurological and cardiovascular health, and has garnered much attention recently. With rapid advances in neuroimaging, improved diagnostic tools, and the identification of biomarkers, we have improved our understanding of brain pathologies and their chronic impact. This Special Issue is the second in the series on the topic and has brought together interesting research on cellular functions, environmental impacts, and therapeutic interventions for brain pathologies, providing a comprehensive overview of the current progress in neuroscience. With a compilation of 16

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