Mediators of Inflammation

Hindawi

Special Issue on

Microglia in Health and Disease: A Double-Edged Sword

CALL FOR PAPERS

The inflammatory response in the central nervous system (CNS), neuroinflammation, may be initiated by a plethora of cues, including infection, traumatic brain injury, toxic metabolites, or autoimmunity. Moreover, neuroinflammation is believed to play an important role in the pathophysiology of brain neurodegenerative diseases, such as Parkinson's disease, Alzheimer's disease, multiple sclerosis, and epilepsy, and in retinal degenerative diseases like glaucoma and diabetic retinopathy. The hallmark of the neuroinflammatory process is the activation of microglial cells, the resident immune effector cells in the CNS. Microglial cells play an important role in CNS homeostasis during development, adulthood, and ageing. Moreover, its function is tightly regulated by the CNS microenvironment, and increasing evidence suggests that disturbances, such as neurodegeneration and ageing, can have profound consequences for microglial phenotype and function. Depending on the microenvironment, microglia cells may contribute to both damage and repair. In recent years, several groups attempted to explain the potential mechanisms and signaling pathways on the activation of microglial cells on CNS injury, but a lot still remains to be unraveled.

This special issue aims to give an overview of the current research on the role of microglia in health and disease. We invite researchers to contribute with original research as well as review articles on the impact of microglia and microglia reactivity during CNS development and during pathological conditions.

Potential topics include but are not limited to the following:

- Interplay of microglial cells with other cells (astrocytes, endothelial cells, and neurons)
- Contribution of microglia reactivity to the development of neurodegenerative diseases
- Neuroprotective roles of microglial cells
- Molecular and cellular mechanisms underlying microglia-induced neurotoxicity
- Neuroprotective strategies against toxicity mediated by neuroinflammation
- Role of microglia in neurodevelopment
- Strategies to modulate microglia activity
- Techniques for imaging neuroinflammation and microglial cells
- Use of biomarkers to identify activated and resting microglia

Authors can submit their manuscripts through the Manuscript Tracking System at http://mts.hindawi.com/submit/journals/mi/mhdd/.

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