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Elucidation of Functional Reconstruction in Brain Injury Model via Cell Transplants and Rehabilitation Exercises

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Message from the Guest Editor

Cell therapy for brain disorders has various meanings and offers a variety of potentials. Stem cells exert therapeutic benefits either endogenously or following transplantation in injured organs, i.e., the brain. The transplantation of exogenous cells, which include various stem/progenitor cells and differentiated cells, such as neurons with a specific phenotype, astrocytes, and oligodendrocytes, is readily referred to as a form of cell therapy.

Furthermore, exercise ameliorates physical and cognitive impairment of patients with brain disorders, by enhancing unmasking root, enabling axonal sprouting, and, eventually, reorganization of the neural system of the injured brain. Key to neuroplasticity is brain remodeling towards recapitulation of a neurodevelopmental microenvironment, which is conducive to stem cell proliferation and differentiation.

The novel concepts in this Special Issue embody and elucidate the damaged brain functional reconstruction mechanism via cell transplants and rehabilitation exercises, which I believe has direct clinical application to various diseases, including brain disorders.



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Special Issue



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