

RESTORATIVE AND REPAIR-PROMOTING TREATMENT STRATEGIES FOR MULTIPLE SCLEROSIS

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Restorative neurology is defined as the branch of neurological sciences which applies active procedures to improve functions of the impaired nervous system through selective structural or functional modification of abnormal neuro-control according to underlying mechanisms and clinically unrecognized residual functions. It is applied in a wide range of disorders of the nervous system, including multiple sclerosis (MS), a chronic inflammatory demyelinating and neurodegenerative disease of the central nervous system characterized by unpredictable and variable clinical course. The cause of MS remains unknown, but an autoimmune attack on components of the myelin sheath and axons is generally accepted to play a significant role in this disease. Until now current treatments for MS have predominantly targeted

inflammatory components of the disease. However, the efficacy of these immunomodulatory treatments is limited and do not prevent long-term disease progression. The absence of treatments for progressive MS which is characterised by accumulating disability represents one of the major difficulties in this disorder. Therefore, there is a clear need for effective management of progressive MS which should be aimed at other aspects of the disease, such as neurodegeneration and demyelination. It is supposed that restorative therapies as well as repair-promoting strategies will be necessary for such patients. Emerging restorative therapies in MS are now related to mesenchymal stem cells, and agents, such as potassium channel and sodium channel blockers.