Exosome for Stroke

Currently only a very limited number of therapeutic approaches are available for treatment of stroke patients, and the vast majority of neuroprotective agents that tested positively in pre-clinical studies failed in clinical trials. In recent years, the clinical value of the use of exosomes for stroke treatment has received widespread attention due their unique characteristics such as low immunogenicity, low toxicity and biodegradability, ability to cross theblood brain barrier (BBB), and their important role in communication between cells. More and more evidence suggests that the secretion of exosomes is the mechanism underlying the protection induced by mesenchymal stromal cells (MSCs) after stroke. Exosomes are thought to support brain restoration and induce repairing effects, including neurovascular remodeling, and anti-apoptosis and antiinflammatory effects. Recent reports have focused on the clinical application of exosomes as a potential drug delivery approach. A review of Hong et al. from Shanghai focuses on the ability of exosomes to interrupt the stroke-induced pathologic processes of stroke, and on publications describing how to achieve more effective treatment of stroke with exosomes [1].

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Hong SB, Yang H, Manaenko A, Lu J, Mei Q, Hu Q. Potential of Exosomes for the Treatment of Stroke. Cell Transplant. 2018 Dec 6:963689718816990. doi: 10.1177/0963689718816990. [Epub ahead of print] PubMed PMID: 30520322.