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Poster Presentation

Effect of Human Neural Stem Cells on Neural Hyperactivity in Kindeling Rat Models

Zahra Gharaeian Morshed[1], Zinat Heidarnia[2], Mohammad Mohammadzadeh[3], Sajad Sahab Negah[4*]

[1]Department of Neuroscience, Mashhad University of Medical Science, Mashhad, Iran
[2]Department of Physiology, Sabzevar University of Medical Science, Sabzevar, Iran
[3]Department of Physiology, Mashhad University of Medical Science, Mashhad, Iran
[4]Department of Neuroscience, Mashhad University of Medical Science, Mashhad, Iran

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Abstract

The excessive electrical activity of neurons is reported in many diseases including: Parkinson's disease, Alzheimer's disease, and Epilepsy. Electrical overactivity in hippocampus accelerates the depletion of neural stem cell (NSC) and impairs the neurogenesis in hippocampus. It is believed that neurogenesis in hippocampus improves the cognitive functions. In this experiment, we use kindled model of rats to represent the hyperactivity of neurons, using the repeated weak excitation of brain structures that progressively increases sensitivity to the same stimulation. At the end, we will compare the NSC group, vehicle group (which get the resolvent of NSCs), and control group by considering their immunohistochemistry and western blotting samples of each group. Cognitive function and neurogenesis in the hippocampus will be evaluated. Our data probably show that the NSCs can improve the function of the hyperactivated brain and can reduce the complications and impairments due to the hyperactivated neural diseases by change in rat's EEG and field potential record.

Keywords: Human Neural Stem Cell, Neural Hyperactivity, Kindeling

Corresponding Author: Sajad Sahab Negah
E-mail: *sahabnegahs@mums.ac.ir*

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