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Poster Presentation

Stem Cell Therapy in Alzheimer's Disease

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Abstract

Alzheimer disease (AD) is a progressive neurodegenerative brain disorder which plays an important role in neural cell destruction and as a result it causes memory loss in the patients. This disease is also the most common type of dementia which doesn't completely respond to medical treatments so no certain cure is available. Recent studies show the advantages of using stem cells (SCs) in treatment of AD. This cells has been used in animal models of AD and they have been effective in control and also treating AD symptoms in this animals. Embryonic stem cells, mesenchymal s tem cells, and neural stem cells are the most common SCs that have been used in AD treatment. This cells could be transplanted to the animal body intravenously and locally. There is a hypothesis that the transplanted cells probably stimulate neurogenesis damaged pats of Alzheimer's patient brains that causes improvements in patient's cognitive functions. Another hypothesis says that this cells divide into neuronal precursor cells, neurons and glia in damaged areas and integrate into the brain circuits. SCs also could be used as a carriers for effective therapeutic compounds including Neprilysin, Plasmin and Cathepsin B which will reduce the Beta-amyloids in mice brains. With the advancements of the technology of SCs and the ability of transforming SCs to different types of neurons of central nervous system, many successes in AD treatment are foreseeable. There are a huge number of researchers who try to delay the disease progression and also regenerate the damaged neural cells by this cells. Despite challenges ahead, we hope that efforts of this growing research area will solve the problems ahead and some day may apply these therapeutic approach for treatment of AD.

Keywords: Alzheimer Disease, Stem Cell, Neurodegenerative Disease

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