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Poster Presentation

Stem Cell Therapy for Treatment of Autoimmune Diseases (with Emphasis on Multiple Sclerosis)

Saman Esmailnejad, Saeid Semnani, Mohammad Javan*

Department of Physiology, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran

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Abstract

Autoimmune diseases have been described as an interesting and poorly understood group of disorders. There are many challenges in the respective scientific societies concerning the nature, causes and the therapeutic approaches of these diseases. In accordance with the evidences the nature and etiology of these disorders is multifactorial and complex but the clearest definition could be expressed as “mosaic of autoimmunity”. Multiple Sclerosis (MS) is an autoimmune disease that affects the Central Nervous System (CNS) resulting in degeneration of the myelin sheaths surrounding the axons of the neurons and death of oligodendrocytes that leads to a wide range of disabilities the in MS patients. The therapy for multiple sclerosis (MS) has changed dramatically over the past decade but overall Treatment of multiple sclerosis (MS) has three aspects: immunomodulatory therapy, therapies to relieve or modify symptoms and cell therapy. Cell Therapy is an emerging form of treatment MS. There are different strategies in stem cell therapy for MS such as using autologous hematopoietic stem cells to restore the individual’s dysfunctional immune system and stop inflammation, utilizing the capacity of autologous mesenchymal or other cell populations for tissue repair and/or disease modification and cell replacement approaches to generate oligodendrocytes and induce demyelination by these cells. Furthermore stem cells provide a valuable advantage to study MS and testing newly developed drugs. In the reviewed the authors discussed the Capabilities of stem cells in multiple sclerosis (MS) treatment and research. In this review we emphasized on the great opportunity of using stem cells and also a number of challenges ahead. At the end we pointed to novel therapeutic strategies that can be applied for treatments for MS patients.

Keywords: Autoimmune diseases, Multiple sclerosis, Stem cell

***Corresponding Author:** Mohammad Javan

E-mail: mjavan@modares.ac.ir