Clinical Trial in Cell Therapy of Multiple Sclerosis

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Abstract

Neuroinflammation is a disorder that causes neurological disease. Neuroinflammation has a significant role in the induction of Multiple sclerosis (MS) and one of the situations that must be treated stops the ongoing process of inflammation against the CNS by self-reactive lymphocytes. According to the successful results that were obtained from the preclinical phase of cell therapy, many studies were performed in clinical phase which resulted in the improvement of clinical symptoms, and in most of them, the quality of life and reduced relapsed were observed. In a comprehensive study, 500 MS patients worldwide were treated with Hematopoietic cells. 100\% of the patients suppressed or reduced inflammation as well as the brain atrophy, which was also an inflammatory complication that was reduced within the patients. All studies in the field of cell therapy show high performance and effectiveness of this approach for the treatment of patients with multiple sclerosis. Even in the most severe stage of the disease (aggressive and resistant forms), the treatments resulted in a positive outcome within the patients; proving that this treatment is optimal for current patients suffering this disease. According to this successful therapeutic method, in recent years the complications were dropped and its severity was minimized crucially in patients who were under the age 40 and the duration of the disease was less than 5 years. Considering that these pharmacological interventions were available for MS patients to have numerous side effects such as Leukoencephalopathies, Thrombocytopenia, Autoimmune and Kidney disease, therefore Phase III clinical trials for comparing and selecting the best possible method is needed to enable the most effective diagnosis of cell therapy treatment for these patients. Also, cohort study in this field should be done to discover the advantages and disadvantages of this method.

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