

STEM CELL THERAPY IN ALZHEIMER'S DISEASE: A PROMISING APPROACH IN THE MODULATION OF NEUROINFLAMMATION

Julia Amadeu Frigerio

Adriano Cressoni Araujo - University of Marília (UNIMAR); Marília-SP; Brazil; Maricelma da Silva Soares de Souza - University of Marília (UNIMAR); Marília-SP; Brazil; Marcelo Dib Bechara - University of Marília (UNIMAR); Marília-SP; Brazil; Elen Landgraf Guiguer - University of Marília (UNIMAR) / FATEC Marília; Brazil

RESUMO

The increase in life expectancy has contributed to the increase in cases of neurodegenerative diseases such as Parkinson's disease, amyotrophic lateral sclerosis (ALS) and Huntington's disease, constituting an important public health problem. In this scenario, Alzheimer's Disease (AD) stands out for being the main cause of dementia in the world. Characterized by progressive cognitive decline and neuroinflammatory changes, AD represents an important challenge for public health. In this context, stem cell therapies emerge as a promising approach due to their regenerative and immunomodulatory potential. This work aims to make a narrative review of the literature on stem cell therapy as a strategy in the treatment of Alzheimer's disease. This is a narrative review carried out in the PubMed database, with the help of the Generative Artificial Intelligence Tool Consensus. The descriptors "Alzheimer's Disease", "Stem Cells" and "Neuroinflammation" were used, combined by the Boolean operator AND. Clinical trials and systematic reviews published in the last five years, in English and with full text available, were included. 10 studies were analyzed, which indicate that mesenchymal stem cell therapy is promising in the treatment of AD. This effect is related to the ability of these cells to self-renew and differentiate into multiple cell types, in addition to involving actions such as immunomodulatory effect, promotion of neuronal regeneration and production of neurotrophic factors. These processes are related to improved neural stability and reduced brain tissue loss and cognitive decline. The results suggest that stem cell therapies represent a promising strategy in the treatment of Alzheimer's disease, especially due to their immunomodulatory and neuroprotective effects. However, more robust clinical trials are needed to confirm their long-term efficacy and safety.

Palavras-chave: Neurodegenerative Diseases Alzheimer's Stem Cells Neuroinflammation.