



Autologous Bone Marrow Mononuclear Cell Transplantation Therapy for Diabetic Peripheral Neuropathy

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Autologous transplantation of bone marrow mononuclear cells (BMMNCs) emerges as a promising and practical approach to treat refractory diabetic peripheral neuropathy (DPN) as per the research led by investigators of Nanyang Technological University and Huazhong University of Science and Technology. Due to the multifactorial characteristics of the DPN pathogenesis, traditional drug treatments have not been efficient.

However, the stem cells transplantation may provide valuable insight towards DPN management.

A total of 168 participants with refractory DPN were selected and administered an intramuscular injection of BMMNCs. A follow-up at 1, 3, 6, 12, 18, 24, and 36 months was done following the transplantation. A comparison of the Toronto Clinical Scoring System (TCSS), nerve conduction studies (NCSs), and clinical data was done before and after the transplantation.

A significant improvement was seen in the neuropathy manifestations after the transplantation of BMMNCs. As compared to baseline, the values of the TCSS scores at 1 month and 3 months reduced significantly following the treatment. This decrement continued persistent unto the completion of the analysis. The action potential, sensory nerves and conduction velocity were improved considerably following the transplantation. No adverse events were noticed. This explains the significant efficacy of autologous transplantation of BMMNCs in managing refractory DPN.

Source Chinese Medical Journal

Link: <https://www.ncbi.nlm.nih.gov/pubmed/30628954>

Original title of article: Efficacy of autologous bone marrow mononuclear cell transplantation therapy in patients with refractory diabetic peripheral neuropathy.

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