

Mesenchymal Stem Cell-Derived Secretome: A promising tool for regenerative therapies

Abhishek Rai

Centre for Stem Cell Tissue Engineering, Panjab University, Chandigarh, India

Abstract

Mesenchymal stem cells (MSCs) have been considered an appropriate source for cell-based therapy over the last decade. MSCs efficacy in clinical applications has shown healing effects against several diseased conditions. However, it has recently been confirmed that MSCs mostly employ their therapeutic effect through soluble paracrine bioactive factors and extracellular vesicles, especially secretome. MSCs-sourced secretome is defined as the set of MSC-derived bioactive factors (soluble proteins, nucleic acids, lipids and extracellular vesicles), which showed therapeutic effects similar to those observed after transplantation of MSCs. Secretome may bypass many side effects of cell-based therapy, including unwanted differentiation of engrafted MSCs. In contrast to MSCs which had to be expanded in culture to reach optimal cell numbers for transplantation, secretome is immediately available for treatment. Nevertheless, regulatory requirements for engineering and quality control will be essential to establish the safety and efficiency of the secretome. We will emphasize current understanding of secretome and importance of profiling for evaluating its potential for cell-free therapy. Secondly, considering the point that pre-conditioning alters the constituents of secretome this poster outline studies where the preconditioning shows better efficacy.

Received: May 5, 2022; **Accepted:** May 17, 2022; **Published:** May 27, 2022

Biography

Mr. Abhishek Rai has completed his graduation at the age of 21 years from Panjab University and pursuing postgraduation in Stem Cell Tissue Engineering from Panjab University, itself. He worked as research assistant(part-time) for 2+ years in a premier infertility diagnostic laboratory. He has one published paper in journals.

Mr. Abhishek Rai has completed his graduation at the age of 21 years from Panjab University and pursuing postgraduation in Stem Cell Tissue Engineering from Panjab University, itself. He worked as research assistant(part-time) for 2+ years in a premier infertility diagnostic laboratory. He has one published journals.