World Academy of Science, Engineering and Technology
International Journal of Bioengineering and Life Sciences
Vol:16, No:03, 2022

Cell-Based and Exosome Treatments for Hair Restoration

Authors : Armin Khaghani Boroujeni, Leila Dehghani, Parham Talebi Boroujeni, Sahar Rostamian, Ali Asilian

Abstract : Background: Hair loss is a common complaint observed in both genders. Androgenetic alopecia is known pattern for hair loss. To assess new regenerative strategies (PRP, A-SC-BT, conditioned media, exosome-based treatments) compared to conventional therapies for hair loss or hair regeneration, an updated review was undertaken. To address this issue, we carried out this systematic review to comprehensively evaluate the efficacy of cell-based therapies on hair loss. Methods: The available online databases, including ISI Web of Science, Scopus, and PubMed, were searched systematically up to February 2022. The quality assessment of included studies was done using the Cochrane Collaboration's tool. Results: As a result, a total of 90 studies involving 2345 participants were included in the present study. The enrolled studies were conducted between 2010 and 2022. The subjects' mean age ranged from 19 to 55.11 years old. Approaches using platelet rich plasma (PRP) provide a beneficial impact on hair regrowth. However, other cell-based therapies, including stem cell transplant, stem cell-derived conditioned medium, and stem cell-derived exosomes, revealed conflicting evidence. Conclusion: However, cell-based therapies for hair loss are still in their infancy, and more robust clinical studies are needed to better evaluate their mechanisms of action, efficacy, safety, benefits, and limitations. In this review, we provide the resources to the latest clinical studies and a more detailed description of the latest clinical studies concerning cell-based therapies in hair loss.

Keywords : cell-based therapy, exosome, hair restoration, systematic review
Conference Title : ICADLT 2022 : International Conference on Aesthetic Dermatology and Laser Treatment
Conference Location : Madrid, Spain
Conference Dates : March 21-22, 2022