عنوان مقاله:

Systematic Review of the Potential of Mesenchymal Stem Cell Therapy for COVID-۱۹ patients: Updated Perspective

محل انتشار:

چهاردهمین همایش دانشجویی تازه های علوم بهداشتی کشور (سال: 1400)

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خلاصه مقاله:

Background and Objective: At the end of ۲۰۱۹, a novel coronavirus spread rapidly in the world.COVID-۱۹ which majorly affects the respiratory tract and lungs leads to immunedysregulating conditions that may cause an imbalance in cytokine. Furthermore various mutations the result of this pandemic increases the rate of mortality among hospitalized Covid-۱۹ patients. MSCs and their secreted extracellular vesicles (EVs) have been shown to combat the disease through multiple pathways for instance endothelial cells and repairing the lung epithelial keeping the renin-angiotensin system, decreasing hyperimmune response, endothelial cells. Extracellular Vesicles (EVs) are one of the small membrane-enclosed particles that are able to vehiculate information between cells. A lot of these exosomes are derived from activated immune modified of Stem Cells and probably can function to transition miRNA that acting as epigenetically plus impress the convalescent plasma receptor response to the virus. The delivery of EVs as naturally extracellular vesicles outcome advance effects for a several of diseases, such as COVID-۱۹. Exosomes and enveloped viruses utilize similar matching endosomal sorting pathways mechanisms and provide exosomes as therapeutics that can target, bind and then suppress cellular uptake of viruses. Hence in this paper, we compiled the available data of the use of stem cells in COVID-۱۹ and review the relationship between respiratory viruses and exosomes.Method of Evaluation: A thorough search was also conducted inside online database including PubMed, Medlib, Springer, Google Scholar, Scopus, and Web of Science to find allarticles related to Mesenchymal stem cells therapy in COVID-۱۹ were searched for relevant studies till ۱۱th June ۲۰۲۱ using keywords COVID-۱۹, Novel Coronavirus, nCoV-۱۹, acute respiratory distress syndrome, cell therapy, MSC Exosomes Mesenchymal stem cells and articles whose full text was not available were excluded from the study.Results: In this study discusses the therapeutic advantage of MSCs-derived EVs contain have highlighted multiple mechanisms in restoration of the lung function.Conclusion: This review explain potential exosomes therapeutics for severe acute respiratory syndrome coronavirus ۲ (SARS-CoV-۲) infection that to be used as a novel therapeutic management targeting to prevent major viral spread within the lung, prevent the virus life cycle and pathogenesis and eventually increase the antiviral immune response.

کلمات کلیدی:

COVID-۱۹, MSC Exosomes, Mesenchymal stem cells, respiratory viruses