

Stem cells as a promising therapeutic direction for the treatment of serious diseases

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ABSTRACT. Stem cells have attracted scientific, clinical and public interest because they can regenerate and develop in certain types of cells, depending on their source of origin and biological plasticity. Several strategies for the use of cell therapy are currently being explored. A total of 8357 clinical trials of various stages using stem cells have been registered. The possibility of using multipotent mesenchymal stromal cells in patients with COVID-19-induced complications is being actively investigated. However, among the stem cell products, the U.S. Food and Drug Administration (FDA) has so far approved only those that are produced from umbilical cord blood. In the USA and European countries, there are private clinics that provide services for the collection and cultivation of stem cells, mainly autologous. Such medical centers can become the point of concentration of personalized medicine, focused on the needs of a particular patient and his/her possibilities of receiving targeted therapy for severe, difficult-to-treat conditions using modern methods in cellular technologies. The article presents an analysis of existing strategies for the therapeutic use of stem cells and the most promising directions for their further study.

KEY WORDS: stem cells, embryonic, autologous, allogeneic, SARS-CoV-2, coronavirus disease.