

Abstract

Patients with serious spinal cord injury (SCI) have a little chance of a full return to their original life. This kind of injuries leaves lifelong consequences as on the patients themselves, as well as their surroundings and family. Considerable financial resources are, worldwide, granted for reintegration of these patients into society. This work focuses on the description of spinal cord injury, its complexity and the possibility of treatment by new therapeutic methods of mesenchymal cells. The first section discusses the severity of spinal cord injury and its pathophysiology with the performance of subsequent clinical phases. The second part is dedicated to new treatment methods and approaches, with an emphasis on cell therapy. The third part presents treatment method using mesenchymal stem cells (MSCs), which immunomodulatory and anti-inflammatory properties, such as their ability to migration to the injured area and the possibility of genetic modification, made them a great candidates for the treatment of serious injuries.

Keywords

Spinal cord injury, stem cells, mesenchymal stem cells, cell therapy, regenerative medicine