

A possible neuroregeneration on ASIA-A scale using a Neurostimulator and combinatorial biologics: Bioquantine® and Wharton's Jelly Mesenchymal Stem Cells as standardized therapy for No Option patients



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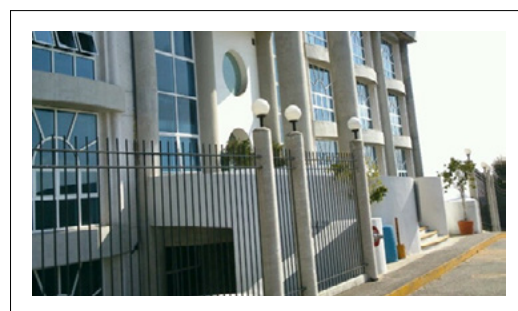
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Abstract

A complete spinal cord injury (SCI) is the complete sensory and motor loss below the site of spinal cord injury following acute or chronic destruction, compression, or ischemia of the spinal cord. It constitutes an inestimable public health issue. The most crucial phase in the pathophysiological process of SCI concerns the well-known secondary injury, which is the uncontrolled and destructive cascade occurring later with aberrant molecular signaling, inflammation, vascular changes, and secondary cellular dysfunctions. The use of our combinatorial biologics based in the combination of a unique polypeptide (Bioquantine®) and Wharton's Jelly or Umbilical Cord Mesenchymal Stem Cells (UCMSCs) specifically Wharton's Jelly derivate ones represents one of the most important and promising and now safe and tested strategy to stimulate the neuroregeneration. This combinatorial method attract, among the other sources and types of stem cells, increased because of their ease of isolation/preservation and their properties. In this review, the therapeutic role of MSCs is discussed, together with their properties, application, limitations, and future perspectives. However, despite our deeper understanding of the molecular changes occurring after initial insult to the spinal cord, the cure for paralysis remains elusive. The current treatment of SCI is limited to early administration of high dose steroids to mitigate the harmful effect of cord edema that occurs after SCI and to reduce the cascade of secondary delayed SCI. An array of mesenchymal stem cells (MSCs) from various sources with novel and promising strategies are being developed to improve function after SCI. In this review, we briefly discuss the pathophysiology of spinal cord injuries and characteristics and the potential sources of MSCs that can be used in the treatment of SCI. Our evidence and science based method (as we previously demonstrated with a patient 2 years ago) is showing a promising alternative on the ASIAA classification SCI. Added to it, we utilized an improved delivery method (making it ambulatory) for the in situ application of subdural Wharton's Jelly MSCs and a unique polypeptide (Bioquantine®). Thereafter we proceeded with the intrathecal application of an advanced neurostimulator biomedical system obtaining improved results and faster clinical recovery after only 5 weeks of the started translational protocol.

Biography

MD, CEO and Founder of Biotechnology and Regenerative Medicine at RegenerAge™ (www.regenerageclinic.com). Vice President of International Clinical Development for Bioquark, Inc. (www.bioquark.com) and Founder and president for the Dr. Jois A.C initiative (www.drjois.com) Advance Fellow by the American Board of Anti-Aging and Regenerative Medicine (A4M), Visiting Scholar at University of North Carolina at Chapel Hill (Dermatology). Fellow in Stem Cell Medicine by the American Academy of Anti-Aging Medicine.



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