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# *In Regenerative Medicine, Macrophage-based Treatment Techniques*

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## Abstract: (600 Words)

In 1973 the American Spinal Injury Association made the International Standards for Neurological Classification of Spinal Cord Injury (ISNCSCI). In this clinical review our patient was classified after the vertebral fixation surgery with a ASIA-A scale injury after suffering a fracture and luxation at T-12-L1, having total spinal cord section. Based on the research made by Sergei Paylian, PhD on animal models and the safety use of allogeneic MSCs demonstrated on multiple animal models applications, we decided to apply a experimental translational medical protocol based the research and the previous outcomes obtained by Hamid and MacEwan and decided to customize it exclusively to our patient based on the clinical evidence and personalizing the therapy on evidence. The medical team designed an ambulatory method utilizing a C-arm to apply the allogeneic MSCs in situ and using a intrathecal (subdural) catheter using a slow pump release system for the rest of the biological material with an optimum tolerance and minor side effects (mild fever, miyalgias and headache) on the first 48 hrs hour after application.

## Importance of Research: (200 Words)

At this date, after 8 intrathecal applications of allogeneic MSCs and Bioquantine® in situ combined together we have got the following outcomes: an improvement in sensitivity, strength in striated muscle and smooth muscle connection by increased muscle mass and sphincter control, at 23 months after the first regenerative therapy and 12 months after the placement of RestoreSensor® the patient is showing an evident improvement on his therapy of physical rehabilitation (legs movement and control of them) having the following movements reported by the physical therapist: a) hip: adduction and external rotation, extension, abduction, internal rotation; b) knee: flexion; c) toe: MP and IP extension, also reporting an easier and functional crawling forward and backwards and since 3 months ago the patient is capable to stand on his knees for 2 or more minutes without any support and taking small steps on his knees forward and backwards for the first time in his process, showing a progressively important functionality on both limbs, voluntary movement at both feet and an increase in sensory perception.

## Biography: (200 Words)

Garcia is the CEO and Founder of Biotechnology and Regenerative Medicine at RegenerAg. He is also the Vice President of International Clinical Development for Bioquark, Inc., Founder and President for the

Dr. Jois A.C initiative Advance Fellow by the American Board of Anti-Aging and Regenerative Medicine. He is also the Visiting Scholar at University of North Carolina at Chapel Hill (Dermatology). Fellow in Stem Cell Medicine by the American Academy of Anti-Aging Medicine and University of South Florida.

## Information of Institute: (200 Words)

Airlangga University (Indonesian: Universitas Airlangga; Javanese: abbreviated as Unair or UA) is the second-oldest university in Indonesia and also a public university located in Surabaya, East Java. Despite being officially established by Indonesian Government Regulation in 1954, Universitas Airlangga was first founded in 1948 as a distant branch of the University of Indonesia, with roots dating back to 1913. It started with a medical school and school of dentistry. Now Universitas Airlangga hosts 16 faculties with more than 35,000 students (during the 2015-2016 academic year) and 1,570 faculty members. Universitas Airlangga has university hospitals for the faculties of Medicine, Veterinary Medicine, Nursing, and Dentistry, as well as a tropical infection hospital for its Institute of Tropical Disease. The university is also equipped with biosafety level three facilities.

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