

CXCR4-stem cell therapy in old myocardial infarction

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For cell therapy on myocardial infarction, many kinds of cells have been studied. In our experience since 2001, the implant of mesenchymal stem cells CD34+ obtained from peripheral blood showed inconsistent improvement in the contractile function of infarcted myocardial tissue, but better survival in long term. For improved cell therapy, in 2014 we characterized the kind of cells that were mobilized to peripheral blood in patients with acute myocardial infarction, which were identified as a response of bone marrow to myocardial insult. In 2015, we began a clinical trial with CXCR4-stem cells and specific cells markers in patients with old myocardial infarction and reduced LVFE. Cells with specific markers were separated with immune-magnetic autoMACS Pro Separator machine and implanted on infarcted myocardial tissue guided by epicardial ultrasound.

Results: To the date we have evaluated 15 patients followed by 12 months, we observed a standardized respond in myocardial perfusion and LVEF at six months, as well as improvement in their functional class from NYHA III to I in all patients.

Conclusion: CXCR4-stem cells with specific cells markers improve the myocardial perfusion and contraction of left ventricle in patients with old myocardial infarction in a standardized way.

Biography

Jose Luis Aceves Chimal has completed his MSc, PhD from Universidad Nacional Autónoma de México, and Postdoctoral studies from National Nutrition Institute Salvador Subiran. He is a Cardiovascular Surgeon and Researcher in National Medical Center 20 de Noviembre ISSSTE in México City. He has published more than 20 papers in reputed journals and has been serving as an Editorial Board Member of repute.