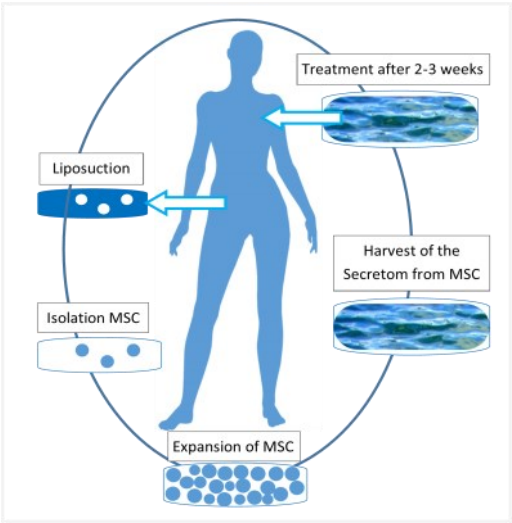

Practical information

As we use your own mesenchymal stem cells from fat tissue as basis for your stem cell and secretome treatment, the first step is a liposuction under local anaesthesia after a general examination, consultation, blood sampling and any other exams deemed suitable. Your tissue will then be processed in our state of the art, dedicated aseptic clean room facilities, which are located within the clinic premises. Your stem cells will be isolated and expanded over a time period of 2-3 weeks and then stored in liquid nitrogen for future uses.

However, the first cells and secretome are already available after 7 days (depending on condition and treatment options). In most cases several injections or infusions will be necessary for optimal results.

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Cardiology

Adipose - Derived Mesenchymal Stem Cells

Safety of autologous and allogenic adipose-derived mesenchymal stem cells has been shown in numerous human clinical studies. [Ref.1,2]

Absence of toxicity of human adipose-derived mesenchymal stem cells was proven at a dose of 2.5 x 10^8 cells/kg body weight in mice. [Ref.1]

Absence of tumorigenicity of adipose-derived mesenchymal stem cells was proven. [Ref.1]

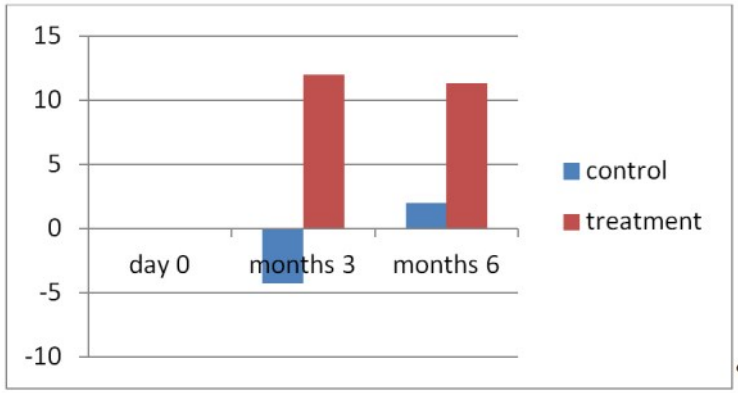
Paracrine effects of mesenchymal Stem Cells

Mesenchymal stem cells upregulated the expression of vascular endothelial growth factor. [Ref 3]

In studies in acute myocardial infarction this leads to increased capillary density and improved cardiac output. [Ref 3]

Paracrine effects of mesenchymal Stem Cells

Improvement of myocardial oxygen consumption. [Ref 4]

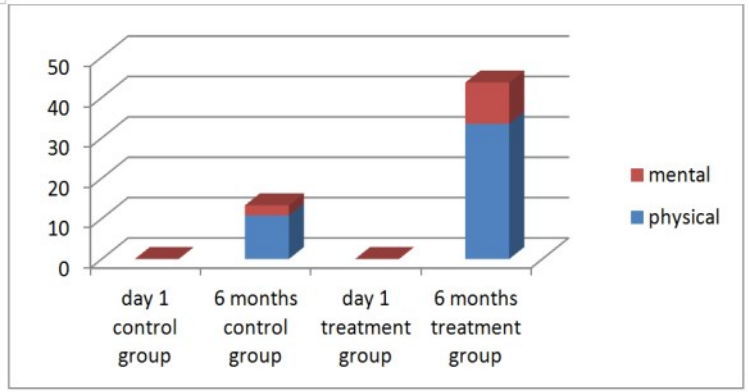


Myocardial oxygen consumption in percentage 20 patients treated with MSC 10 control patients

Improvement in treated patients: increase of 12 resp. 11.3 %

Intracoronary Infusion mesenchymal Stem Cells

Improvement of quality of life assessment.[Ref.4]

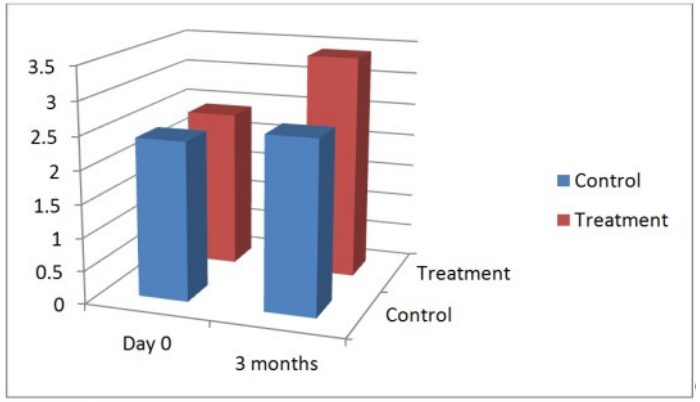


Assessment of quality of life (SF36) in percentage 20 patients treated with MSC 10 untreated control patients

Increase of mental quality by 10% Increase of physical quality by 33.5 % after 6 months.[Ref.4]

Transcardial Injection of mesenchymal Stem Cells

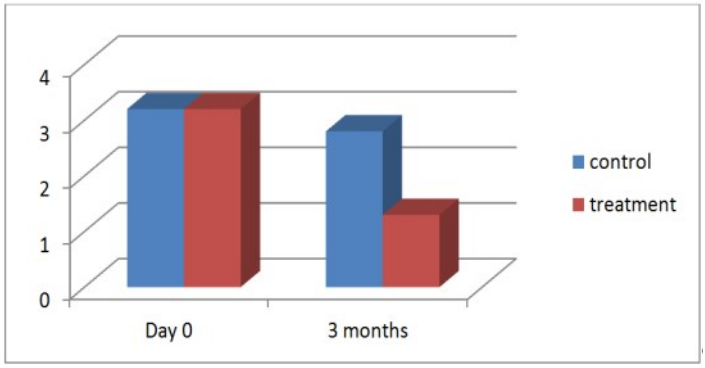
Improvement of left ventricular ejection fraction in patients with acute myocardial infarction.[Ref.5]



Left ventricular ejection fraction in % 69 patients 34 treated with MSC 35 as control

Improvement of LVEF in treated patients from 49% to 67%.[Ref.5]

Reduction of functional defects in patients with acute myocardial infarction. [Ref.5]



Functional defects in % 69 patients
34 treated with MSC
35 as control

Reduction of functional defects in treated patients from 32% to 13%. [Ref.5]

Ref. 1. Ra et al.: Stem cell treatment for patients with autoimmune disease by systemic infusion of culture-expanded autologous adipose tissue derived mesenchymal cells. Journal of Translational Medicine 2011, 9:181. Ref. 2. Ra et al: Safety of intravenous infusion of human adipose tissue derived mesenchymal stem cells in animals and humans. Stem Cell Dev 2011, 20(8): 1295-6. Ref. 3. Zicheng Li et al.: Paracrine Role for Mesenchymal Stem cells in Acute Myocardial Infarction. Biol.Pharm.Bull. (2009) 32 (8) 1343-1346. Ref. 4. Perin, E.C. et al.: A randomized study of transendocardial injection of autologous bone marrow mononuclear cells and cell function analysis in ischemic heart failure (FOCUS-HF). Am Heart J 2011;161;1078-1087. Ref. 5. Chen, S et al.: Improvement of cardiac function after transplantation of autologous bone marrow mesenchymal stem cells in patients with acute myocardial infarction. Cin Med J 2004; 117 (10):1443-1448