Recent findings of the effects of mesenchymal stem cells on the treatment of patients following mi (a clinical studies review)

A. Arti¹, A. Bader

Abstract

Cardiovascular diseases (CVDs) are the leading cause of death in the developed countries. CVDs have different types and among them myocardium infarction (MI) is the most frequent form. MI occurs when the blood flow in coronary artery blocked. It might happen due to different reasons but some parameters like age, gender, smoking, lack of physical activity can be involve on the frequency of that.

The main strategies for the treatment of MI are: Oxygen therapy and beta- blockers medication treatment. The main goal for those therapy methods is to restore blood flow in the blocked coronary as fast as possible. The other strategies are like injection of Heparin and to administration of some medication with anti platelet like Aspirin or Clopidogrel and finally in acute condition to undertake the heart surgery is necessary.

To undertake new approaches as supplementary approaches in addition to routine therapy methods seems promising. Among them stem cell therapy is a less invasive, less expensive seems promising approach to accelerate treatment of the patients following MI.

There are two main types of stem cells: 1- Embryonic stem cells (ESCs) and 2- Adult Stem Cells (ASCs).

To discuss ESCs is out of scope of this review but ASCs there are different types of that but the most important type of ASCs is bone marrow stem cells (BMSc). BMSc are delivered to two main sources of 1- hematopoietic stem cells (HSCs) and 2- Mesenchymal stem cells (MSCs).

In patients after MI heart function will reduce like left ventricular ejection fraction (LVEF) and some the other important parameters also affect too, therefore to undertake a new approach to help routine treatments following MI is an important strategy. The first time Strauer et al in 2002 reported successfully clinical administration of BMSc and since then many researches across the world have done more promising experimental and clinical on this topic.

The goal for this review poster is to determine the effects of administration of MSCs on the therapy of patients following MI according to recent published studies on this topic.