

Principals and applications of regenerative medicine with reference to experimental studies in Egypt



Eslam Mohamed Ramdan

Armed Forces College of Medicine, Egypt

Abstract

According to the health resources and services administration (HRSA), about 20 persons die every day due to waiting for the transplant. About 113,000 persons were reported to be waiting for the transplant in July 2019. In a trial to solve this health problem, the author will talk about the new fabrication technology in tissue engineering and the concomitant addition of cells and growth factors that is currently used in regenerative medicine. We will also talk about the successful applications done to treat critical defects. The three pillars for regenerative medicine are the use of biomaterial, cells (stem cells) and biomolecules (Growth factors). The biomaterial could be natural or synthetic. The rational is to try to mimic the extracellular matrix. In addition, they must be biocompatible, biodegradable and of mechanical strength. The type of stem cells to be used is critical. We need to control the characters of the stem cells to reduce the probability of adverse effects. The growth factors to be added will play a critical role in directing the stem cell differentiation. The three-dimensional (3D) printing technology is a new technology to regenerate an artificial organ. In this review, we will focus on the results of the experiments done to treat critical bone defects, skin defects and urinary bladder defects in Egypt.

Biography

Eslam Mohamed Ramdan, 6th year medical cadet at Armed Forces College of Medicine (AFCM). He is a member of research team at AFCM, volunteer member at International Science and Engineering Fair and trainee at Pain Management Association, USA.



3rd International Conference on Regenerative Medicine, June 29-30, 2020

Citation: Eslam Mohamed Ramdan, Principals and applications of regenerative medicine with reference to experimental studies in Egypt, Stem Cell Congress 2020, 3rd International Conference on Regenerative Medicine, June 29-30, 2020, 04