

Stem Cell Research: Then and Now

Mary D'souza* and Calra Napples

Department of Gynecology and Obstetrics, Saint Peter's University Hospital, New Brunswick, USA

Keywords: Stem cell research; Stem cell therapy; Developing stem cell; Adult stem cell; Bone marrow stem cell; Induced pluripotent stem cells

What are Stem Cells? And why these Types of Cells are so Popular in Medical Field

Stem Cells are the type of cell that has the potential to give birth/reform to any type of cell like them also. There are different types of stem cell: developing stem cell, adult stem cell, bone marrow stem cell, Induced pluripotent stem cells. These cells are so much popular because of their importance in medical and clinical trades as they are being used to treat diseases which were impossible to cure before their origin.

All of it started in 19th century, when scientists from all over the started studying stem cells from plants, mice in hunt of the cure for the illness or disorders. For the first spell the term "Stem Cell" came into substance because of a German scientist named Ernst Haeckel used the expression stem cell to define the inseminated egg that become an organism. A major encroachment took place in 2006 when two Japanese scientists Yamanaka and Kazutoshi, announced the creation of rodent Induced Pluripotent stem cell (iPSCs). These iPSCs were the adult cells reprogrammed to look and function like embryonic stem cell, which made Yamanaka S and Kazutoshi, the father of iPSCs and also these iPSCs became valuable resource of stem cell research and cellular therapeutics [1-3].

Stem cells hold boundless potential and prospective in the arena of medicine, whether doctors give a shot those into patients to replace ailing bone marrow, or lab scientists examine them under a microscope to see in what way lung malignance progresses. The road to invention is extensive and full of hindrances, and there are long lists of queries left unanswered but improvement is ongoing and in countless cases startling.

Stem cell exploration has now advanced dramatically and there are uncountable research studies available each year in scientific journals. Fully-grown stem cells are now being used to treat many problems such as heart disease and leukemia. Investigators still have a lengthy way to go afore they completely regulate the directive of stem cells. The prospective is overpoweringly positive and with sustained support and research, scientists will preferably be able to yoke the full control of stem cells to extravagance diseases that patients used to have from birth or juvenile stage [4-6].

The most exhilarating solicitation of stem cells could be their impending use in replacement of ailing operational tissue such as old muscle or cornea; spare of veins; coronary and peripheral stents; spare of the bladder and fallopian tube; and refurbishment of cells to yield essential enzymes, hormones and additional bioactive secretory products.

References

1. The Scientist (2016) Daily News. Stem cells Tag no. 47.
2. Anna A (2016) Stem Cells for Personalized Pain Therapy Testing. The Scientist News.
3. Merlin GB, Jay EM (2011) Umbilical cord blood banking: an update. Assisted Reproduction and Genetics 28: 669-676. [pubmed]
4. Bhangra KS, Busuttill F, Phillips JB, Rahim AA (2016) Using Stem Cells to Grow Artificial Tissue for Peripheral Nerve Repair. Stem Cells International 8: 7502178. [pubmed]
5. Mazzoccoli G, Miscio G, Fontana A (2016) Time related variations in stem cell harvesting of umbilical cord blood. Scientific Reports 6: 21404.
6. Bishi DK, Guhathakurta S (2014) The Scope of Stem Cell Transplantation in Tissue and Organ Regeneration: Myth or Reality? J Stem Cell Res Transplant 1: 1007.

*Corresponding author: Mary D'souza, Department of Gynecology and Obstetrics, Saint Peter's University Hospital, 254 Easton Avenue, New Brunswick, New Jersey, USA, Tel: 4074663509; E-mail: marydsouza845@gmail.com

Received June 25, 2016; Accepted July 02, 2016; Published July 30, 2016

Citation: D'souza M, Napples C (2016) Stem Cell Research: Then and Now. J Stem Cell Res Ther 6: e119. doi: [10.4172/2157-7633.1000e119](https://doi.org/10.4172/2157-7633.1000e119)

Copyright: © 2016 D'souza M, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.