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Short Note on Cell therapy

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Abstract: It is a Bio medical procedure of introducing, Grafting or replacing a diseased, non-functional cells with healthy cells as a substitute. Based on the action of the cell the mechanism is of two types i.e. Long-term replacement and Shirt period mechanism.

Keywords: Somatic Cell, Gene Therapy, gRNA and RNA

Long term replacement action involves replacement or grafting a whole or a portion of a non-functional or diseased tissue which involves a long-term span of the cells or tissue. During Myocardial infraction also called Heart attack the damaged blood vessel is replaced by forming of new blood vessels from pre-existing vein. It's serves in a long run. Whereas Short period the cells that are responsible for growth factors or chemokines essential for body is being replaced by those healthy or genetically engineered cells with high potent capacity were introduced for short span. Based on cell Grafting procedure the cell therapy is of three types Allogeneic Cell therapy which same species cells to treat the patient or recipient cells like Hematopoietic stem cell therapy, Blood and Bone marrow transfusions etc. Autologous cell therapy uses patients or subject own cells for grafting or replacing in another site or tissue like tissue engineering in conditions like, Osteogenesis, Myocardial infraction. Xenogeneic cell therapy uses the twins or clones of the subject cells which having a lineage similar to the host. Osteogenesis and other genetic complications can be treated using these therapies based on the procedural requirement.

Basing on the availability and procedural requirement cells are needed to be selected Like Human embryonic stem cells, Neural stem cells, Mesenchymal stem cells, Hematopoietic stem cells and Differentiated or mature cell which is an alternative to stem cell treatment are used. These cells possess Multipotent and fast proliferating abilities. Diseases like Osteogenesis impetrate condition that causes Brittle Bone structure was treated by the Bone marrow transplant or Hematopoietic stem cell as a long run treatment and other conditions like Myocardial infraction and other Genetic and auto immune diseases related to blood and immune cells can be treated with Hematopoietic stem cell transplant

Cell therapy originated in the nineteenth century when scientists experimented by injecting animal material in an attempt to prevent and treat illness. Although such attempts produced no positive benefit, further research found in the mid twentieth century that human cells could be used to help prevent the human body rejecting transplanted organs, leading in time to successful bone marrow transplantation as has become common practice in treatment for patient that how compromised bone marrow after disease, infection, radiation or chemotherapy. In recent decades, however, stem cell- and cell transplantation has gained significant interest by researchers as a potential new therapeutic strategy for a wide range of diseases, in particular for degenerative and immunogenic pathology

Stem, progenitor, or develop cell engraftment, separation and long-standing replacement of impaired tissue. In this paradigm multipotent or unipotent cells separation into a specific cell type in the lab or after reaching the site of injury (via local or systemic administration). These cells then integrate into the site of injury, restore impaired tissue, and thus facilitate developed function of the organ or tissue

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