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Role of autologous stem cells in infertility

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Stem cells are undifferentiated cells that are present in the embryonic, fetal and adult stages of life and give rise to differentiated cells that make up the building blocks of tissue and organs. Medical definition of infertility is failure to conceive after > 12 months of unprotected intercourse reported by 1 in 6 couples. The major characteristics of stem cells are self-renewable, plasticity and potency. Peripheral blood derived concentrate contain growth factors like fibroblast growth factor-2 (FGF-2), vascular endothelial growth factor (VEGF), transforming growth factor- β (TGF- β) due to which stem cells considered as potentially new therapeutic agents for the treatment of infertility. Commonly stem cells are of two types: embryonic stem cells and adult stem cells (Hematopoietic stem cells and Mesenchymal stem cells). Another type is induced pluripotent stem cell which is generated by reprogramming of somatic cells. During past few years a considerable progress in the derivation of male germ cells from pluripotent stem cells has been made. Platelet rich plasma (PRP) has shown a great success in treating thin endometrium which is a cause of failed IVF in infertile women. PRP secrete growth factors and increase the thickness of endometrium and increase the quality of blood flow. Bone Marrow concentrate may have potential role in treating Asherman Syndrome, Poor Ovarian Reserve, Oligospermia and non-obstructive Azoospermia.

Biography

Prabhu develops strategic alliances and implements national and international projects for the mission of advancing regenerative medicine and stem cell therapy. Prabhu's personal experience with life changing cellular therapies and adult stem cell transplant ignited his passion to be involved with an innovative new area of medicine bringing together the industry leaders in regulatory, science, medicine, safety and ethics via an association model to yield the best possible patients outcome.

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