BioSpectrum the business of Bio & Health Sciences

Can stem cells be used to treat Diabetes?

09 July 2019 | Features | By Mr. VipulJain (CEO,Advancells)

Stem Cell Therapy is better than conventional treatment as the long term use of steroids is dangerous for the newly generated diseases

Diabetes is one of the most devastating diseases with Type 1 and Type 2 being the major forms. The root cause of Type 1 diabetes is considered to be the obliteration of cells of islet Langerhans.

Stem Cell Treatment for Diabetes

Stem Cells have opened up multitude research possibilities in Diabetes treatment. One such case is where the researchers extracted cells from human digestive tract and enabled the cells to produce insulin. Thus stem cells have been found to be effective in both treatments for diabetes type 1 and treatment for diabetes type 2.

There are many sources from which stem cells can be extracted for the treatment of type 1 and type 2 diabetes.

These include:

Teeth

Bone Marrow

Umbilical Cord

Blood Cells

The Placenta

Embryos

In recent years, stem cells research has turned into a critical piece for the understanding and possibly the solution for type 1

diabetes.

Research has shown that stem cells can be developed in the lab.

In 2004, the University of Pittsburgh developed insulin delivering beta cells by presenting two genes ‘cdk’ and ‘cyclin d’ via a virus.

The analysts could deactivate the virus and furthermore keep stem cells from growing further. The research could prompt a superior accessibility of beta cells for future research purposes.

With Type 2 Diabetes the body becomes insensitive and less able to deliver insulin, which transports glucose from the circulatory system into body tissues. Rather the sugar volume in the blood develops. The pancreas may build insulin generation however it doesn’t correct the issue.

The stem cells treatment involves extraction of stem cells from the patient’s own bone marrow, adipose tissue or both. The specified amount of sample once extracted is processed in the laboratory and injected back into the body through various means of implantation such as intra – venous injection and intra – arterial injections.

The results of stem cell therapy in diabetes are humongous. The patients experience fall in blood sugar level and blood glucose levels becoming more stable, lower post fasting blood glucose and elimination of hypoglycemia with further decrease in leg pain and hypertension. The symptoms of erectile dysfunction are also cured by this.

Reasons why stem cells are beneficial for treatment of diabetes?

Adult stem cells, undifferentiated and versatile, can change into the cells of countless organs and structures inside the human body. Numerous treatments utilize stem cells as they can reestablish harmed structures and restore falling flat cells adequately. These cells, isolated from Bone marrow and Adipose tissue, when implanted back into the body, multiply spontaneously to restore damaged tissues. They set up a microenvironment for secretion of growth factors cytokines which boost the cell growth.

Stem Cell Therapy is better than conventional treatment as the long term use of steroids is dangerous for the newly generated diseases. If diabetes is left untreated, it can lead to diabetic foot, damage of kidney and other physical ailments.

Stem cell science has seen significant headways over the most recent couple of years with numerous new advancements and disclosures being made. Stem cell treatment for diabetes can open new possibilities in the medical industry in near future.

Authored by Mr. VipulJain (CEO,Advancells)