

General Approaches to the Stem Cell Therapy in Diabetes Mellitus as Innovative Researches

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EDITORIAL

There are two kinds of diabetic situations which are type 1 and type 2. Insufficient insulin secretion from pancreatic beta cells in type 1 and the resistance develops in the body against secreted insulin in type 2. Blood glucose and also HbA1c are higher than normal. HbA1c which is their monthly risk and complete statement. All together with deterioration of the immune system, genetic and living style constitute diabetic. Inactivity, easily having some foods with the higher energy and growing fat together with having more kilos facilitates factors of diabetes (2).

Diabetes can be found out or aggravated by physical factors such as sorrows, fears, disasters and other stress factors. Diabetes manifests itself in the body with some indications (8). Diabetic patients cannot use the glucose from foods. Some factors such as to save your ideal kilos and to keep under control, to walk regularly daily, healthy and balanced nutrition, do not buy and eat any product including fructose and sugar in diabetes mellitus might be pay attentions. It can be appear cases such as polyuria, polydipsia, polyphagia, sensation of numbness in the extremities, excessive weight loss, peripheral neuropathy, retinopathy, nephropathy in diabetes mellitus. There are some symptoms for diabetes such as fatigue, weakness, anorexia, thirst and wound healing for a long time. If someone in your family has diabetes then you have diabetic risk. Insulin cannot be produced. It's an autoimmune disease and genetic predisposition exists. Insulin secreted disability. It is more common in society (2).

Type 1 diabetes generally starts in the childhood. Defense mechanism of the body defines beta cells of pancreas as foreign objects and killed the cells. Therefore, pancreas is not able to produce the insulin so body needs to insulin injection from outside. Pancreas which is not able to produce insulin or not able to use insulin by insulin resistance. Treatment which starts by diet and exercises and going on anti-diabetics after all insulin injection can be needed (2,9).

Bone marrow and blood cells can be produced by cells that are called stem cells. Blood cells constitute cells which can carry oxygen to tissues, defends the body against micro plasma and protect from bleeding. Stem cells transplant, first of all evacuation of the patient's bone marrow after placement and propagation of all received stem cells which are tissue group compatible and obtain by completely healthy person. There are three important sources to get stem cell for cell transplant. These are bone marrow, blood and belly cord. Stem cells are a cell community that is capable of self-renewing, repairing damaged tissues, and differentiating cells (1,8).

Although the stem cells which are originally used in leukemia patients and also used in the eye retina repair, skin diseases and diabetes mellitus. Not only there are no currently sufficient studies on human beings but also more animal experiment has been carried out (3). Stem cells may be administered for the treatment of stroke patients (9). Researchers studied on the development induced pluripotent stem cells for Type 1 diabetes therapy. They implied that benefits for type 1 diabetes mellitus therapy pluripotent stem cells from bone marrow, liver and pancreatic cells, as well as the potential use of embryonic (4). Assady and et al showed that generation of cells which are insulin produced by beta cells in vitro differentiation (2). New possibilities alternative to gene therapy and tissue transplantation in the treatment of type 1 and type 2 diabetes can be found (14).

Researchers, type 1 pluripotent for diabetes root cell based treatments are tested (13). Noguchi worked in the in vitro for the production of pancreatic insulin secretion (11). Liew and Andrews explained the production of pluripotent stem cell in diabetes treatment (6). Investigating of caspase systems in beta cell improvement shows that this technology can be used in diabetes treatment (7). There exists increment in bone marrow-derived progenitor cell apoptosis of diabetic rats. It is explained that miR-27b avoids this apoptosis in type 2 diabetes mellitus (5). Stimulation of mutation in Stat 3 is a reason that diabetes mellitus associated with otomatin. Repair of mutation with cysteine-aspartic proteases, cysteine aspartases or cysteine-dependent aspartate-directed proteases (caspases) completely fixed disease (12).

Stem cell transplantation which is still more important research topic and can be lead to new promising treatments. Stem cell treatment is only the place to be applied at the medicine, not diabetic. The stem cell therapy has an attractive significant for curing many diseases including diabetes mellitus in future.

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