What is the Islet Cell Transplantation for Type 1 Diabetes?

by NEWLIFEOUTLOOK TEAM

Islet Cell Transplant for Type 1 Diabetics

Individuals suffering from Type 1 diabetes suffer from an autoimmune disease. This means that the cells that produce insulin, known as Beta cells, have been attacked and destroyed by the body's immune system. Since beta cells produce insulin, which absorbs glucose in the bloodstream, the destruction of these cells means that individuals will have glucose built up in their bloodstream.

One possible solution for individuals suffering from Type 1 diabetes is an Islet cell transplantation. It is less common than traditional approaches to fighting the symptoms of diabetes; however, it can be beneficial to fully understand the procedure as well as the risks associated with it.

What are Islet Cells?

Islet cells are a group of cells that are found in the pancreas. One type of cell group that the islet structure contains is the beta cells. Therefore, transplanting islets can help a person suffering from type 1 diabetes by providing them with the beta cells they require for insulin production.

However, if the transplanted cells aren't of the same genetic makeup, the patient's immune system may begin to attack them. In these cases, immunosuppressant drugs can be used.

The Two Types of Islet Cell Transplants to Be Aware Of

There are two different types of Islet cell transplantations, all-transplantation and auto-transplantation.

Allo-Transplantation

When an islet allo-transplatation procedure is performed, the islets from the donor are purified before they are transplanted into the recipient. It is important to note that the benefits of allotransplantation are disputed by some scientists. Therefore, it is still considered an experimental procedure.

Recipients of an islet cell allotransplantation will usually receive two infusions. After the second infusion, the beta cells will start producing the insulin required to absorb glucose.

This type of treatment is generally reserved for patients who have a difficult time maintaining and controlling their glucose levels. The procedure can only be performed in a hospital setting by a radiologist.

Auto-Transplantation

When a patient suffers from an extreme form of pancreatitis, the allotransplantation method of treatment may not be an option. When this is the case, the entire pancreas will need to be removed.

Although the procedure is not considered experimental like allotransplantation, it is not a viable option for individuals suffering from type 1 diabetes.

Understanding the Benefits and Risks Associated With Islet Cell Transplants

One of the most commonly cited benefits of this medical procedure is an improved glucose level. This is the direct result of healthy beta cells that are received during the Islet Cell Transplant. This can be a good form of therapy for individuals who suffer from type 1 diabetes but do not respond well to more traditional forms of therapy.

However, there are also some risk factors associated with this procedure. The transplant recipient may experience blood clots or other negative side effects that result from immunosuppressive drugs. Patients considering this form of treatment should seek a thorough medical assessment to determine if they are a good candidate.