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Islet transplantation in Italy

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Abstract

Two centers have now an active islet transplant program in Italy, both placed in Milan: the San Raffaele Scientific Institute and the Niguarda Hospital. Up to 2018 in Italy about 200 patients affected by type 1 diabetes mellitus received an islet allotransplantation and about 100 patients received an islet auto-transplantation after a partial or total pancreatectomy. In spite of this large volume of activities, there is not a specific reimbursement fee for islet isolation and current reimbursement based on the Diagnosis-related group covers only partially the hospitalization and the islet transplantation costs.

Keywords

Islet transplantation; Pancreas procurement; Type 1 diabetes

There have been three decades of islet transplantation history in Italy. The first insulin independence after islet allo transplantation from a single donor was obtained in Italy on 1990^{1,2}. Up to 2018 in Italy about 200 patients affected by type 1 diabetes mellitus received an islet allotransplantation and about 100 patients received an islet auto-transplantation after a partial or total pancreatectomy.

Two centers have now an active islet transplant program in Italy, both placed in Milan: the San Raffaele Scientific Institute and the Niguarda Hospital. The San Raffaele Scientific Institute still represents one the most experienced centers in the world on the base of the number of transplanted patients and of the volume of scientific research on different topics on islet allo and auto-transplantation. The second Center, Niguarda Hospital started the activity only on 2009 and it is mainly a clinical and not a research center. Some sporadic islet transplant activities were reported in other centers in Italy (Pisa, Bergamo, Palermo), but now these are not currently active. Both San Raffaele and Niguarda Hospitals have different collaborations within networks where they isolate and distribute islets for clinical or research purpose³.

The National Italian Transplant Centre coordinates and supervises all the activities related to islet production, distribution and transplantation. It authorized and certified the islet isolation facilities that are periodically submitted to a regular inspection to verify the respect of the National Guidelines for islet production. Pancreases are allocated by some regional or inter-regional organ procurement coordinating organizations. The allocation of a pancreas

for vascularized organ or for islet transplantation depends on the donor characteristics (age, amylase values, cardiac arrest, amine use, length of ICU permanence) and on the eventual combination of kidney transplantation.

In spite of this large volume of activities, there is not a specific reimbursement fee for islet isolation and current reimbursement based on the Diagnosis-related group covers only partially the hospitalization and the islet transplantation costs. Usually, the costs are covered by research grants or private donation. In Niguarda Hospital islet isolation is one of the activities of the Regional Tissue Bank together with skin harvesting and distribution. In the future there is a project for transferring to Niguarda Tissue Bank other tissue production as cardiac valves and bone. The harvesting and the distribution of many tissues by a single center may be a solution for the optimization of the costs.

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