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Simultaneous Pancreas–Kidney Transplantation. Experience of the Doce de Octubre Hospital☆

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ABSTRACT

Introduction: Simultaneous pancreas–kidney transplantation (SPKT) constitutes the therapy of choice for diabetes type 1 or type 2 associated with end-stage renal disease, because is the only proven method to restore normo-glicemic control in the diabetic patient.
Methods: Retrospective and descriptive study of a series of 175 patients who underwent SPKT from March 1995 to April 2016. We analyze donor and recipient characteristics, perioperative variables and immunosuppression, post-transplant morbi-mortality, patient and graft survival, and risk factors related with patient and graft survival.
Results: Median age of the donors was 28 years and mean age of recipients was 38.8±7.3 years, being 103 males and 72 females. Enteric drainage of the exocrine pancreas was performed in 113 patients and bladder drainage in 62. Regarding post-transplant complications, the overall rate of infections was 70.3%; graft pancreatitis 26.3%; intraabdominal bleeding 17.7%; graft thrombosis 12.6%; and overall pancreas graft rejection 10.9%. The causes of mortality were mainly cardiovascular and infectious complications. Patient survival at 1, 3 and 5-year were 95.4%, 93% and 92.4%, respectively, and pancreas graft survival at 1, 3 and 5-year were 81.6%, 77.9% and 72.3%, respectively.
Conclusions: In our 20-year experience of simultaneous pancreas–kidney transplantation, the morbidity rate, and 5-year patient and pancreas graft survivals were similar to those previously reported from the international pancreas transplant registries.
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Trasplante de páncreas-riñón simultáneo. Experiencia del Hospital Doce de Octubre

Palabras clave:
Trasplante de páncreas
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RESUMEN

Introducción: El trasplante de páncreas-riñón simultáneo constituye el tratamiento de elección en la diabetes tipo 1 o tipo 2 con fallo renal terminal o preterminal (diálisis o prediálisis), por ser la única terapia que consigue el estado euglucémico (insulino-independiente) en el paciente diabético.

Métodos: Estudio retrospectivo y descriptivo de una serie de 175 pacientes trasplantados de páncreas-riñón simultáneo entre marzo de 1995 y abril de 2016. Se analizan las características de los donantes y receptores, variables perioperatorias e inmunosupresión, morbimortalidad postrasplante, supervivencia del paciente e injerto y factores de riesgo de supervivencia del paciente e injerto.

Resultados: La mediana de edad de los donantes fue de 28 años y la media de los receptores, de 38,8±7,3 años, siendo 103 hombres y 72 mujeres. La derivación duodeno-entérica se realizó en 113 casos y la duodeno-vesical, en 62. Las tasas de complicaciones postrasplante fueron las siguientes: infección global (70,3%), pancreatitis del injerto (26,3%), hemorragia intraabdominal (17,7%), trombosis del injerto (12,6%) y rechazo pancreático global (10,9%). Las causas de mortalidad fueron fundamentalmente cardiovasculares e infecciosas. La supervivencia del paciente a 1, 3 y 5 años fue del 95,4, del 93 y del 92,4%, respectivamente, mientras que la del injerto correspondió al 81,6, al 77,9 y al 72,3%, respectivamente, durante el mismo periodo.

Conclusiones: En nuestra experiencia de 20 años de trasplante pancreático-renal simultáneo las tasas de morbilidad y supervivencia del paciente y del injerto a 5 años son similares a las referidas en los registros internacionales de trasplante pancreático.

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Introduction

Simultaneous pancreas–kidney transplantation (SPKT) is the treatment of choice for type 1 diabetes in end-stage renal failure, as it is the only therapy that achieves an insulin-independent euglycemic state with normal glucose homeostasis.[1,2] In type 2 diabetes, pancreas transplantation is recommended in patients with unstable glycemia who have been insulin dependent for at least 5 years with a body mass index (BMI) less than 32 kg/m^2 and no cardiovascular disease.[3,4] In terms of patient and graft survival, the results of SPKT are similar in type 1 and type 2 diabetics.[5] Among the advantages of pancreas transplantation are the improvement of diabetes-related complications: incipient diabetic nephropathy of the native kidneys, sensory and autonomic peripheral neuropathy, gastroparesis, retinopathy, microvascular and macrovascular disease, cardiac and sexual function[6–16] and quality of life.[17]

From 1966, when Lillehei and Kelly[18] carried out the first pancreas transplantation in Minneapolis, until December 2014, more than 48 000 pancreas transplantations were registered worldwide (more than 29 000 in the United States and more than 19 000 in other countries), including the different transplant modalities of simultaneous pancreas–kidney (SPKT), pancreas after kidney (PAKT) or pancreas transplant alone (PTA).[19] In this study, we will analyze our results obtained with SPKT.

Methods

At the Hospital Universitario Doce de Octubre (Madrid, Spain), from March 1995 to April 2016 we performed 206 pancreas transplantations, using the following methods: 175 simultaneous pancreas–kidney transplantations (SPKT), 15 pancreas after kidney (PAKT) and 16 re-transplantations. In this observational and retrospective study, we analyze our experience with SPKT carried out during the reference period, as well as a minimum post-transplantation follow-up of 6 months. Donor, recipient and perioperative variables were analyzed, as well as post-transplantation complications and patient/graft survival and risk factors for recipient/graft survival.

Donor Selection Criteria

In our protocol, pancreatic grafts were accepted from donors between 10 and 50 years of age who were hemodynamically stable, weighed more than 30 kg, with normal color and consistency and absence of: type 1 diabetes in the donor or first-degree relatives, cardiac arrest or prolonged stay in the ICU, alcoholism, calcifications, steatosis, major pancreatic edema, chronic graft pancreatitis or trauma, abdominal bacterial contamination, infection (viral, bacterial or fungal), tumors (except skin and brain) and iv drug addiction. Hyperamylasemia more than double the normal level and

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