



Original article

Development and Results of a Novel Pancreas Transplant Program in Spain: The Surgeon's Point of View[☆]



Luis Muñoz-Bellvis,^{a,b,*} María del Carmen Esteban,^{a,b} Manuel Iglesias,^{a,b} Luis González,^{a,b} Juan Ignacio González-Muñoz,^{a,b} Cristina Muñoz-González,^{a,b} José E. Quiñones,^{a,b} Guadalupe Tabernero,^c Rosa Ana Iglesias,^d José María Sayagués,^{a,b} Pilar Fraile^d

^a Servicio de Cirugía General y del Aparato Digestivo, Hospital Universitario de Salamanca, Salamanca, Spain

^b Instituto de Investigación Biomédica de Salamanca (IBSAL), Universidad de Salamanca, Salamanca, Spain

^c Servicio de Nefrología, Hospital Universitario de Salamanca, Salamanca, Spain

^d Servicio de Endocrinología, Hospital Universitario de Salamanca, Salamanca, Spain

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ABSTRACT

Introduction: Simultaneous kidney–pancreas transplantation for patients with type 1 diabetes and end-stage chronic renal disease is widely performed. However, the rate of surgical morbidity from pancreatic complications remains high. The aim of this study was to describe the development and results of a new program, from the point of view of the pancreatic surgeon.

Methods: We analyzed 53 simultaneous kidney–pancreas transplantations performed over a period of seven years (2009–2016), with a median follow up of 39 months (range: 1–86 months).

Results: Out of the total of this series, two patients died: one patient because of cardiac arrest immediately after surgery; and another patient due to traffic accident, complicated by pneumonia. Among the 51 living patients, two grafts were lost: one due to chronic rejection four years after transplantation; and the other due to arterial thrombosis 20 days after transplantation (the only case requiring transplantectomy). In ten patients, one or more re-operations were necessary due to the following: graft pancreatitis (n=4), small intestinal obstruction (n=4), arterial thrombosis (n=1), fistula (n=1) and hemoperitoneum (n=1). Overall patient and graft survival rates after 1, 3 and 5 years were 98%, 95% and 95% and 96%, 93% and 89%, respectively.

Conclusions: This study has shown that the results of a new pancreas transplant program, which relies on the previous experience of other groups, do not demonstrate a learning curve. Adequate surgeon education and training, as well as the proper use of standardized techniques, should ensure optimal results.

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[☆] Corresponding author.

E-mail address: luismb@usal.es (L. Muñoz-Bellvis).

Desarrollo y resultados de un nuevo programa de trasplante de páncreas en España: la visión del cirujano

RESUMEN

Palabras clave:

Trasplante de páncreas
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Supervivencia del paciente
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Introducción: El trasplante simultáneo de páncreas-riñón se encuentra indicado para pacientes con diabetes tipo 1 y enfermedad renal terminal. Los resultados son excelentes aunque el número de procedimientos parece ser un factor que afecta a la supervivencia de paciente e injerto estando en relación con la morbilidad quirúrgica, derivada de complicaciones pancreáticas. El objetivo del estudio es describir el desarrollo de un nuevo programa y exponer los resultados en un centro con un volumen bajo de trasplantes.

Métodos: Analizamos 53 trasplantes simultáneos de páncreas-riñón, en un período de 7 años (2009-2016), con una mediana de seguimiento de 39 meses.

Resultados: Dos pacientes han fallecido, uno tras parada cardíaca en postoperatorio y otro tras accidente de tráfico complicado con una neumonía. Entre los 51 pacientes vivos se han perdido 2 injertos, uno por un rechazo crónico tras cuatro años del trasplante y otro por trombosis arterial a los 20 días del mismo, motivo, este último, de la única trasplantectomía realizada. En diez pacientes se han realizado una o más reintervenciones: pancreatitis (n=3), oclusión intestinal (n=4), trombosis arterial (n=1), fistula con peritonitis (n=1) y hemoperitoneo (n=1). La supervivencia del paciente y del injerto a 1, 3, y 5 años fue del 98, 95 y 95% y del 96, 93 y 89%, respectivamente.

Conclusiones: Los resultados muestran que un nuevo programa de trasplante pancreático puede conseguir resultados similares a los de grupos con mayor volumen y experiencia. Una adecuada selección de donantes y receptores, una técnica homogénea y el aprendizaje con grupos expertos garantizan estos resultados.

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Introduction

Since the first transplantation performed in 1966, pancreas transplantation has evolved progressively, improving in technical aspects (systemic venous shunt and enteric drainage of exocrine secretion) as well as immunosuppression, which has been reflected in the improved patient and graft survival rates.^{1,2} Some authors suggest that one of several factors that can affect survival is the number of procedures performed per year, which would be a marker representative of the experience and overall quality of a hospital.^{3,4} In addition, other teams have published discouraging results related to surgical problems in the early stages of a hospital transplant program, that is, during the theoretical learning period.^{5,6} For this reason, we consider it of interest to present our results, which are representative of these two circumstances: a low-volume medical center in its initial stage.

In Spain, Professor Fernández-Cruz initiated the first pancreas transplant program in 1983⁷; since then, multiple programs have been established in different institutions. In 2016, 11 adult transplant programs were active, which conducted a total of 70 transplantations. In this study, we present the experience of the pancreas transplant program at the Hospital Clínico Universitario in Salamanca, Spain, over the course of 7 years. In this period, a total of 53 simultaneous pancreas-kidney transplantations (SPK) were performed. We describe the results obtained related with patient and

pancreas graft survival in order to evaluate whether these results are comparable to centers with larger transplant volumes and more experience.

Methods

The study has a retrospective, observational design using a prospective database audited by the Ministry of Health and Consumption, including all transplantations performed (n: 53) during the study period (March 2009–May 2016). **Donors:** For donor selection, the criteria established in the 1995 Consensus Document by the National Transplant Organization⁸ were followed. **Recipients:** For the study and selection of recipients, the recommendations of the Consensus Document by the National Transplant Organization⁸ were also followed. The geographical areas assigned to the Salamanca group are the Community of Castilla y León (2 400 000 inhabitants) and, since 2012, the Community of Extremadura (1 099 000 inhabitants). Since January 2014, we have been accredited as a National Reference Center.

All patients underwent a preoperative SPECT study, followed by coronary angiography. In three patients, pre-transplantation coronary stent placement was necessary. The study of the aortoiliac axis was done by CT angiography. All transplants were simultaneous pancreas-kidney. The study was approved by the Ethics Committee of the Hospital Universitario in Salamanca.

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