

ISOLATED PANCREATIC TRANSPLANTATION IN A BRAZILIAN CENTRE

Transplante isolado de pâncreas em um centro brasileiro

João Eduardo Nicoluzzi^{1,2}, Fábio Silveira¹, Fábio Porto¹, Matheus Macri²

ABSTRACT

Purpose. Simultaneous pancreas-kidney transplantation (SPK) is an accepted treatment for patients with type 1 diabetes mellitus and end-stage renal disease. Modern immunosuppression and biopsy techniques have improved the success of pancreas alone (PA) transplantations to the point where the outcome is now equivalent to that of SPK. **Methods.** From 120 pancreas transplants at Angelina Caron Hospital since 2001, 12 were PA transplants. **Results.** Patient and graft survival rates at 1 year were respectively 83 % and 75 %. Two patients died due to sepsis in the first and second month after surgery, both with functioning grafts. One graft was lost due to venous thrombosis during the first transplant week. Patient survival rate was 100 % at hospital discharge. **Conclusion.** The present report describes our data with PA transplantation with fine results for a limited experience in such transplantation modality.

Keywords: Pancreas Transplantation; Transplantation; Pancreas.

INTRODUCTION

Simultaneous pancreas-kidney transplantation (SPK) is an accepted treatment for patients with type 1 diabetes mellitus and end-stage renal disease. Both the American Diabetes Association and the American Society of Transplant Surgeons have approved pancreas transplantation as an acceptable alternative to exogenous insulin therapy in this setting.^{1,2} Modern immunosuppression and biopsy techniques have improved the success of pancreas alone (PA) transplantations to the point where the outcome is now equivalent to that of SPK.³ The favorable results allowed extending the limits for recommending PA transplant. With its higher success rates, it began being offered to patients at an earlier stage of secondary chronic complications resulting from diabetes mellitus, in an attempt to improve the quality of life and to modify the natural course of the disease.⁴

In Brazil there are only 4 centers performing PA transplantation. The present paper aims to report the experience on PA transplantation at Angelina Caron Hospital, Brazil.

PATIENTS AND METHODS

Population of the study. From 120 pancreas transplants at Angelina Caron hospital since 2001, 12 were PA transplants, performed between August 1, 2003 and February 24, 2007. These 12 transplants are the aim of this analysis. All of these patients had at least two chronic complications of diabetes, being the most frequent labile type 1 diabetes mellitus.

All of these 12 patients were first transplants. There were 8 female and 4 male recipients. The mean age at the diagnosis of diabetes was

Instituições:

¹ Departamento de Cirurgia da Santa Casa de Misericórdia de Curitiba, Paraná, Brasil.

² Departamento de Cirurgia do Hospital Angelina Caron, Campina Grande do Sul, Paraná, Brasil

Correspondência:

Dr. João Eduardo Nicoluzzi

Santo Amaro, 118 – CEP: 80620-330 – Curitiba / PR – Brasil

Tel.: (41) 3264-6719

E-mail: jenicoluzz@yahoo.com

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13±7 years; the mean duration of the disease was 20±8 years. The mean age at transplantation was 35±8 years (range, 23-49 years).

The method to manage the pancreas exocrine secretions was bladder drainage in all recipients.

Immunosuppression. Thymoglobulin (0.5 mg per kg of body weight) was used as induction therapy in a 7-day course. Tacrolimus (0.1 to 0.2 mg/kg) was divided in two doses; mycophenolate mofetil (2g/day) was divided in 2 to 4 doses, and prednisone was also employed in all cases. The tacrolimus levels were adjusted to achieve whole blood levels of 8-12 ng/ml for the first 6 months and 5-10 ng/ml thereafter.

Rejection diagnosis and treatment. Rejection has been defined by a 25% or more decrease in the urinary amylase levels from the baseline in two consecutive measurements or by diagnosis from a biopsy. Pancreas rejection episodes were treated with a 7-day course of anti-T-cell therapy.

RESULTS

Patient and graft survival. The patient and graft survival rates at 1 year were respectively 83 % and 75 %. Two patients died due to sepsis in the first and second post-surgery month, both with functioning grafts.

One graft was lost due to venous thrombosis during the first post-transplant week. Patient survival rate was 100 % at the hospital discharge.

Percutaneous transplant biopsy was liberally used to improve the accuracy of rejection episodes. Among 9 PA patients (two were excluded due to death and 1 for presenting early thrombosis), 4 of them had a pancreas biopsy performed respectively 6 months after the transplantation in three patients and 9 months in one of them due to a persistent hyperamylasemia and hypoamilasuria, and 3 showed rejection requiring rejection treatment. It was found moderate rejection in those patients with arterial endothelitis or vasculitis. The pancreas rejection episodes were treated with a 7-day course of anti-T-cell therapy. No graft was lost due to rejection. All patients with functioning grafts were insulin-independent, with

no glucose dietary restriction and with significant improvement on their quality of life.

DISCUSSION

In the beginning, SPK transplantation was considered controversial, but since late 1980s, it has become a widely accepted and applied treatment option for selected uremic patients with diabetes, since remarkable progress has been achieved in the field of PA transplantation over the last few years. The high success rates now attained are due to the contribution of the new immunosuppressive regimens employed and more aggressive rejection diagnosis methods. In the end of the last decade, some centers already reported PA and SPK graft survival rates between 85 and 90% at the end of the first year.³

Opponents of the PA transplantation have argued that its long-term impact on secondary complications is not quite clear. Most pancreas recipients undergo a SPK when they experience secondary complications in far advanced stage. Even so, the diabetic neuropathy improves or stabilizes most of the pancreas recipients;⁵ the high incidence of sudden death among patients with autonomic neuropathies is also reduced after the transplantation.⁶

In contrast, the impact of the pancreas transplant on nephropathy and retinopathy is controversial. Diabetic neuropathy tends to stabilize in pancreas recipients with long-term functioning grafts, but the progression of advanced retinopathy does not change in the first 3 after-transplant years.⁷ Serial biopsies of the native kidney after a successful PA showed slight progression of diabetic neuropathy at 5 years.^{8,9} However, recent data shows that 10 years after a successful PA transplant, the diabetic neuropathy seems to improve.¹⁰

CONCLUSION

The present report describes our data on PA transplantation presenting fine results as initial experience. We expect that such transplant modality becomes an effective treatment in our country for very selected type 1 diabetic patients with secondary complications of the disease.

RESUMO

Objetivo. O transplante simultâneo de pâncreas-rim é um tratamento aceito para diabéticos do tipo 1 com insuficiência renal crônica. As drogas imunossupressoras atuais aliadas à biópsia do enxerto melhoraram o resultado do transplante pancreático solitário, a um ponto similar ao transplante simultâneo de rim-pâncreas. **Métodos.** De 120 transplantes pancreáticos realizados no Hospital Angelina Caron desde 2001, 12 foram transplantes solitários. **Resultados.** As sobrevidas após um ano de paciente e enxerto foram respectivamente 83% e de 75%. Dois pacientes morreram de sepsis no primeiro e segundo mês pós-cirurgia, ambos com enxertos funcionantes. Um enxerto foi perdido por trombose venosa ainda na primeira semana pós-transplante. A sobrevida dos pacientes foi de 100% até a alta hospitalar. **Conclusão.** O presente estudo descreve nossos resultados no transplante isolado de pâncreas com resultados satisfatórios para uma experiência ainda limitada nessa modalidade de transplante pancreático.

Descritores: Transplante de Pâncreas; Transplante; Pâncreas.

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