ELSEVIER

Pancreas Transplantation With Enteric Drainage Under Tacrolimus Induction Therapy

R.J. Corry, M.F. Egidi, R. Shapiro, M. Jordan, S.F. Dodson, V. Scantlebury, C. Vivas, H.A. Gritsch, J.J. Fung, and T.E. Starzl

FROM JULY 1994 through July 1996, 73 pancreas transplants were performed at the University of Pittsburgh. To avoid the high complication rate related to bladder drainage[1] and to reduce the rate of reoperation, enteric drainage according to the technique described by Starzl,[2] was performed in the majority of patients. Rejection episodes were documented with fine needle aspiration (FNA) of the pancreas and/or kidney.[3]

MATERIALS AND RESULTS

Sixty-three Type I diabetic patients received simultaneous pancreas kidney transplants (SPK), and 10 received solitary pancreas transplants.

Immunosuppression included tacrolimus 0.15 mg/kg/po preoperatively and intravenous tacrolimus 0.05 mg/kg for 5 to 7 days postoperatively to achieve target levels of 20 to 30 ng/mL during the first week. Following this, oral tacrolimus was given every 12 hours to achieve blood levels of 20–25 ng/mL from 1 to 2 weeks, 15 to 20 ng/mL from 2 to 4 weeks, 10 to 15 ng/mL from 1 to 3 months, and 5–12 ng/mL by 6 months. Azathioprine was given at an initial dose of 5 mg/kg and 1.5 to 2.0 mg/kg postoperatively thereafter. An intravenous bolus of methylprednisolone was given intraoperatively and tapered from 200 mg to 20 mg over 5 days. The last 20 patients received mycophenolate mofetil instead of azathioprine.

CMV prophylaxis was not used except in the seropositive to seronegative donor recipient combinations. Only one patient developed clinically significant CMV disease, which lasted a week.

Complications of 18 bladder drained pancreases (50%) included reflux pancreatitis in 3 eventually leading to graft loss in 2, hematuria requiring transfusion in 3, fistula in 2 requiring conversion to enteric drainage in 1, and severe acidosis requiring hospitalization in 3 with conversion to enteric drainage in 1.

Complications of 55 enteric drained pancreases (13%) included anastomotic perforation in 1 repaired by simple closure and peritoneal lavage, suture line bleeding requiring transfusion in 3, 1 splenic artery anastomotic fistula with graft loss and deep wound abscess in 2.

One patient lost both pancreas and kidney from antibody-mediated rejection 5 days postoperatively in a patient who was highly sensitized and developed a positive cytotoxic crossmatch 3 days after transplantation. Another enteric drained patient rejected both organs following severe systemic and wound candida infection necessitating discontinuation of immunosuppression. A third kidney was lost from thrombosis at 3 weeks. Six patients lost pancreases within the first week from donor related factors.

Patient survival was 99% (1 recipient died of a brain stem infarction 7 months following removal of a solitary pancreas transplant at 3 months from recurrent reflux pancreatitis). Kidney and pancreas survival was 95% and 85%, respectively (median follow-up 1 year).

DISCUSSION AND CONCLUSIONS

The majority of the enteric drained patients were discharged between 1 and 2 weeks and had a significantly lower surgical complication rate. The single anastomotic perforation was noted in a patient who had been on steroids for almost a year following a successful kidney transplant (both grafts have normal function). In both the enteric and bladder drained patients, suture line bleeding (3 in each group) stopped spontaneously and did not extend hospitalization in spite of the transfusion requirement. Careful donor selection and the rapid en bloc recovery technique employed in the last year and a half have eliminated early graft failure.[4]

In conclusion, only 2 grafts were lost from rejection, a significantly reduced morbidity was noted in the enteric drained group, and severe CMV disease was noted in only 1 patient who had a febrile illness for 1 week which resolved. The low incidence of CMV disease may have been related to not using antibody induction therapy, which did not appear to be necessary in the tacrolimus treated pancreas recipients.

REFERENCES

1. Sollinger HW, Messing EM, Eckhoff DE, et al: Ann Surg 218:561, 1993

2. Starzl TE, Iwatsuki S, Shaw BE, et al: Surg Gynecol Obstet 159:265, 1984

3. Egidi MF, Shapiro R, Khanna A, et al: Transplant Proc 27:3055, 1995

4. Dodson F, Pinna A, Jabbour N, et al: Transplant Proc 27:3050, 1995

From the Thomas E. Starzl Transplantation Institute, Falk Clinic, Pittsburgh, Pennsylvania.

Address reprint requests to Robert J. Corry, Thomas E. Starzl Transplantation Institute, Falk Clinic, 3601 Fifth Avenue, Pittsburgh, PA 15213.

0041-1315/97/$17.00
PII S0041-1345(96)00375-2