tions or peri-operative mortalities. Twelve patients (43%) underwent a Whipple procedure and required a concomitant portal or SMV resection due to venous involvement. Operative time and blood loss was increased in the venous resection group. Peri-operative complications were observed in three of 12 patients who also underwent portal or SMV resection and 5 of 16 patients who underwent Whipple alone. Four of the 12 patients in the venous resection group and 3 of 16 in the Whipple alone group succumbed to recurrent disease at one-year follow-up. Four previously published series also support similar survival rates for patients undergoing Whipple procedure alone or concomitant venous resection. Conclusion: Adding portal or SMV resection to a Whipple procedure may be performed safely and allows a significantly greater number of patients with peripancreatic malignancies to benefit from surgical resection.

## PANCREAS Transplantation

### 120 Late Intra-Abdominal Surgical Complications after Pancreas Transplantation With Roux-en-Y Enteric Drainage

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**Background:** Pancreatic transplantation (PTx) is associated with considerably high incidence of surgical complications. The incidence and characteristics of early post transplantation intra-abdominal infectious complications is well discussed in the surgical literature. However, delayed presentation of peri-pancreatic abscesses with or without graft duodenal leak is less documented and understood. Patients and methods: The records of all PTx recipients, who were hospitalized for late (> 3 months post transplantation) intra-abdominal complications, were reviewed systematically. Donor, recipient, operative and post-operative clinical, imaging and laboratory data were analyzed. All cases were of simultaneous kidney—pancreas cadaveric transplantation and in all, pancreatic exocrine drainage was enteric with doudenoo-enterostomy to a Roux-en Y limb, together with systemic venous drainage. Results: Eight out 44 K-PTx recipients, who had an initial un-eventful surgical course, were re-hospitalized due to delayed intra-abdominal surgical complications. Two were explored for mechanical small bowel obstruction and are excluded from this report. The other six (4 females, 2 males, mean age, 44) were treated for peri-graft abscesses (n=5) or delayed anastomotic leaks (n=1). The mean interval from the PTx was 16 months (range, 4-43). There was no association with rejection episodes, graft pancreatitis or other systemic infection or CMV disease. Management included surgical drainage (n=5) together with graft tube doudenostomy (n=2) or percutaneous drainage alone (n=1). One patient died of sepsis. Three developed pancreatic-cutaneous fistulae, which were resolved within two weeks to months. Conclusions: PTx with enteric drainage is associated with delayed intra abdominal surgical complications. The mechanism, etiology and risk factors are not clear, but seem to be different than those of the early post-operative period.

### 121 Obesity is Associated with a Higher Rate of Anastomotic Leak in Enteric-Drained Simultaneous Pancreas and Kidney Transplantation

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**Aim:** The influence of body mass index (BMI) on outcome of simultaneous pancreas and kidney transplantation has not been reported. Methods: A retrospective review of 88 consecutive primary SPK at our institution from 3/15/95 - 8/28/01 was performed. All patients received antibody induction and maintenance immunosuppression with tacrolimus, mycophenolate mofetil, and steroids. Systemic - enteric pancreas implantation was performed in all cases. Primary endpoints were patient, pancreas, and kidney survival. Secondary endpoints were rates of anastomotic leak, pancreas thrombosis, major infection, rejection, relaparotomy, and length of stay. Results: Fifty-two patients (59.1%) were non-obese (NO) with BMI ≤ 24.9. Thirty-six patients were obese (OB) with BMI > 25. Distribution of recipient age, gender, and ethnicity was similar between groups. There was a trend toward longer pancreas anastomotic time in OB (OB: 31.8 ± 8.4 min, NO: 28.1 ± 9.9 min, p = 0.07). Kidney and pancreas anastomotic times and preservation times were not different between NO and OB. Actuarial patient and graft survival were similar between NO and OB and are depicted below. The mean rates of pancreas thrombosis, major infection, pancreas rejection, kidney rejection, relaparotomy, and length of stay were similar between groups. The mean rate of anastomotic leaks in OB (0.17 ± 0.38) was higher than in NO (0.02 ± 0.14), p = 0.014. Eight percent of all leaks (6/7) occurred in OB patients. Mean BMI in the 7 patients with leak (26.8 ± 1.9, range 23 - 27.6) was significantly higher than in patients that did not develop a leak (23.9 ± 3.7), p = 0.05. Conclusions: Although the overall anastomotic leak rate in enterically-drained SPK is low, the presence of obesity is associated with a significantly higher rate of leak. All but 1 leak in this series (86%) occurred in OB patients. Suspicion for the presence of enteric anastomotic leak should therefore be especially high in OB SPK recipients.

### 122 Investigation of Non-Heart Beating Donors as a Potential Source of Pancreatic Islets

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**Background:** A recent report from Edmonton indicates that type-1 diabetes can consistently be reversed by isolated islet transplantation. However in this report of 7 patients, insulin independence was achieved only after islet transplantation from 2 or 3 donors. In view of the donor shortage, isolated islet transplantation is unlikely to become the treatment of choice for diabetes if each recipient requires islets from several donors, since whole pancreas transplantation requires only one donor. A source of donor pancreata currently considered unsuitable for whole organ transplantation are those from non-heart beating donors (NHBDs), in which unlike traditional brain dead donors (BDDs), withdrawal of support and cardiac arrest occur prior to organ recovery. Whether NHBDs can provide an adequate number of functional islet equivalents (ieg) for successful transplantation is unknown. Methods: From 2/00 to 11/01 we isolated islets from 107 human pancreata, including 10 NHBDs. Islets from NHBDs were compared with those from heart beating BDD by in vitro assays (insulin release (IR) and perfusion) and by their ability to reverse diabetes when transplanted to nude mice. Results: The results of the 10 NHBD isolations are compared to a comparable group of BDD isolations in the table below. These results encouraged us to...