

The first simultaneous pancreas kidney transplantation in Sri Lanka

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Keywords: Simultaneous pancreas kidney transplant; renal transplantation; pancreas transplantation; renal failure

Introduction

Diabetes Mellitus (DM) is a common disease in Sri Lanka with a prevalence of 10.3 % in individuals of more than 20 years of age [1]. Although, most of these patients can be managed with oral hypoglycaemics and insulin (both type 1 and 2) in about 15 % of patients this becomes difficult [2]. When renal failure develops in these patients Simultaneous Pancreatic Kidney Transplantation (SPK) becomes an option. Such transplantation has not been done in Sri Lanka before. The aim of this article is to report the first successful SPK in Sri Lanka which is also the first dual organ transplantation in this country.

Case report

A 47 year old male patient with type 2 DM and End Stage Renal Failure (ESRF) was prepared for SPK. his blood sugar control was erratic despite being on high doses of insulin (30 u mane and 40u nocte of mixtard (30/70) insulin) with usual blood sugar levels between 250 mg /dl to 300mg /dl and 3 admissions with hypoglycaemia in last 3 months .The patient was diagnosed of having renal failure for last 6 months and was on twice a week haemodialysis for 3 months. He was on a deceased donor waiting list for renal transplantation at The Teaching Hospital Anuradhapura, Sri Lanka.

A 41 year old brain dead compatible donor became available. Pancreas was retrieved with coeliac axis, superior mesenteric artery, portal vein and duodenal stump. The left kidney was also harvested for transplantation. HTK (Histidine Ketoglutarate Tryptophan) solution was used for cold perfusion and preservation. Iliac artery "Y" graft was taken from the donor. The coeliac axis and superior mesenteric stumps were connected using the "Y"graft.

A Midline laparotomy was made on recipient. Pancreatic vessels were anastomosed to external iliac vessels on the right

side. Duodenal stump was anastomosed to terminal ileum forming an enteric drainage (Figure 1). Renal vessels were anastomosed to left external iliac vessels and ureter was anastomosed to bladder over 5F double "J" stent.

The blood sugar level became normal from post op day2 and he did not require insulin after that. The patient developed a retro-pancreatic haematoma which was evacuated on day 5. He was discharged home on day 15 with Tacrolimus, Mycophenolate Mofetil (MMF) and prednisolone as anti-rejection medications.

At present 2 months after SPK patient is well with the fasting blood sugar range of 97 to 130 mg / dl and serum creatinine of 84 to 130 µmol /l.

Discussion and conclusions

Pancreatic transplant was first performed in 1966 (3). Since then the surgical techniques and immunosuppression have evolved gradually. Because SPK improves the quality of life (4) , reduces the progression and complications of DM (4) as well as improving overall survival more than those patients undergoing renal transplantation alone (5), at present SPK remains an established treatment for patients with uncontrolled DM and end stage diabetic nephropathy. DM is found in approximately 10.3 % of population in Sri Lanka (1) and 10 to 20 % of diabetic patients develop ESRF. Initially SPK was performed in patients with type 1 DM, but current studies have found similar benefits and patient and graft survival in patients with both types 1 and 2 DM (6). Therefore SPK should be considered in selected patients with DM and ESRF. Also establishing a countrywide deceased donor programme will facilitate achieving the above goal.

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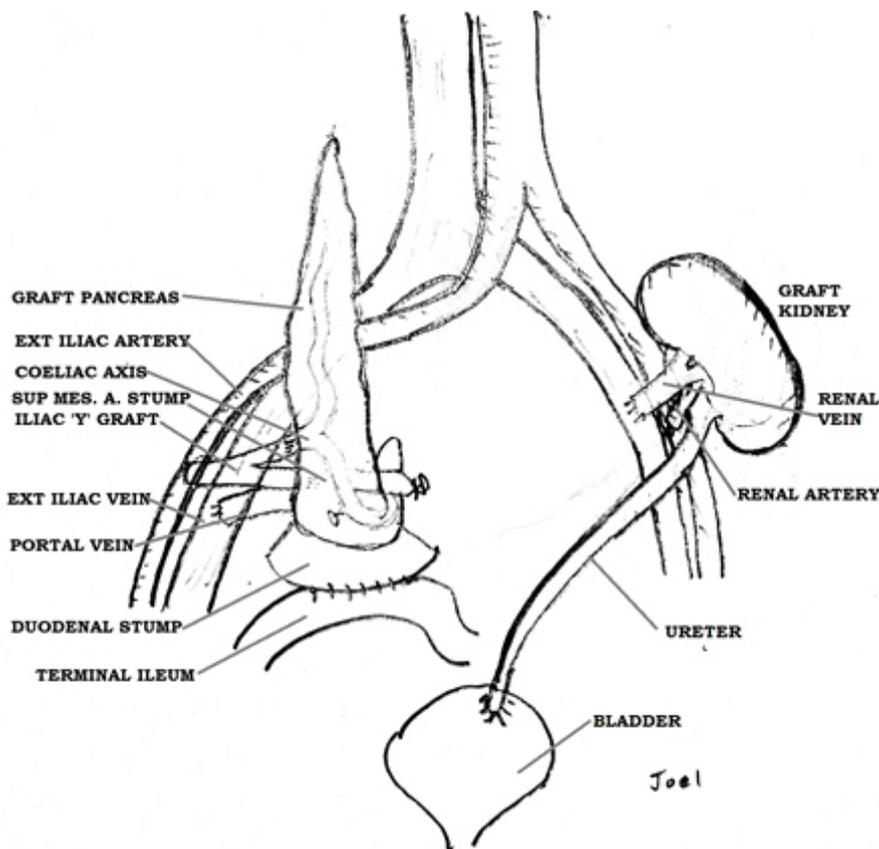


Figure 1. SPK Surgical Technique

Key Points:

- Simultaneous Pancreas and Kidney transplantation should be considered as an option in patients with renal failure and Diabetes Mellitus , especially when there are other complications of Diabetes Mellitus are developing and the blood sugar control becomes difficult.
- A deceased donor program should be established in Sri Lanka to make such transplants possible.