

A Unique Case of Caesarean Section in a Recipient of Simultaneous Pancreas-Kidney (SPK) Transplant

Dr. Parshant Mittal (ST5 Anaesthetics), Dr. Vivienne Madden (Consultant Obstetric Anaesthetist)
University Hospitals Coventry and Warwickshire

Introduction

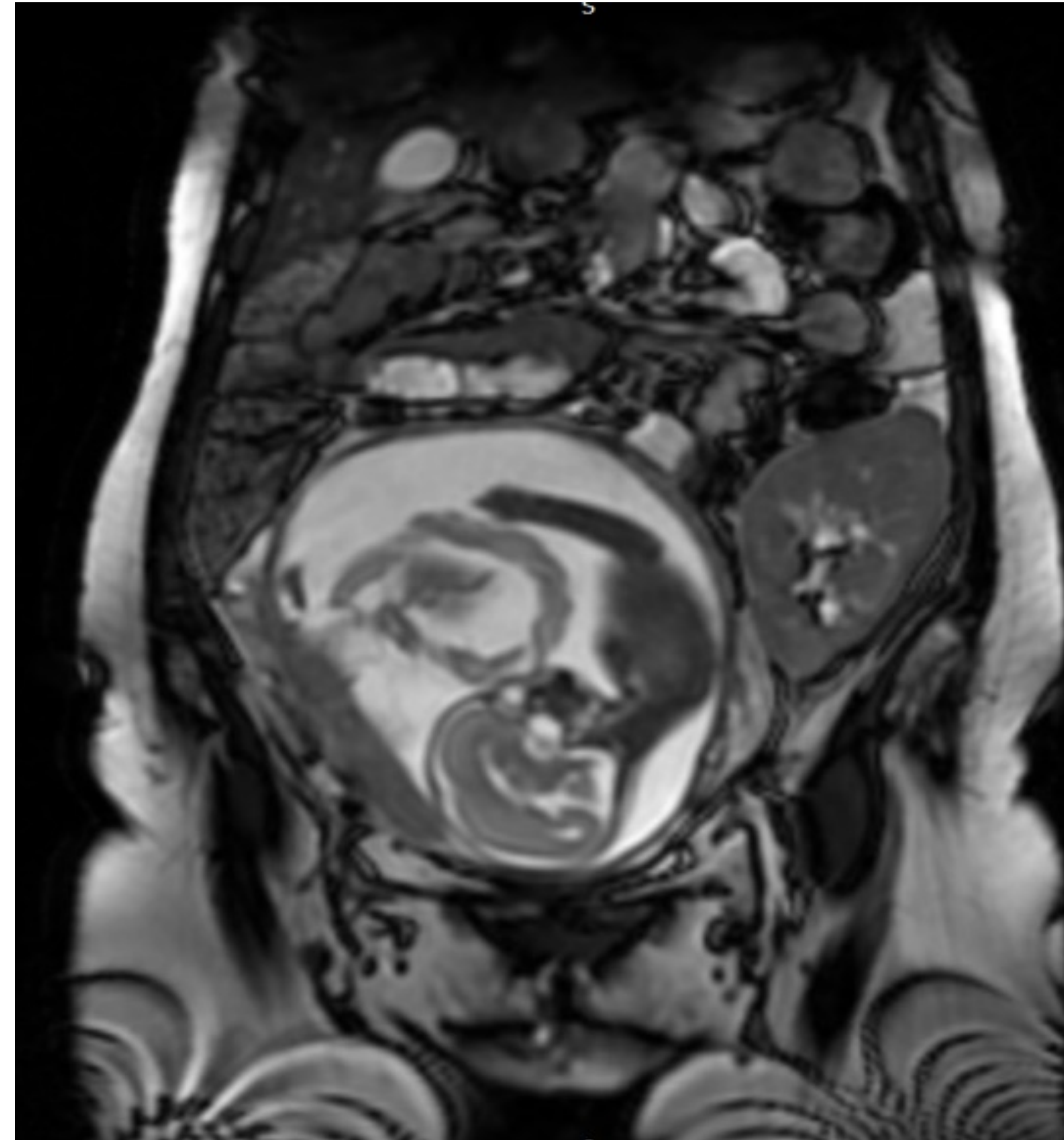
The simultaneous pancreas and kidney transplant to treat insulin dependent diabetes and end stage renal disease is becoming more common in young female patients. However, there are still very few cases reported of pregnancy outcomes in these patients.

Literature

1. Retrospective study in France, 2017¹
 - 22 patients over span of 25 years
 - 92.6% foetal survival
 - 96% and 100% kidney and pancreas graft survival respectively
2. Retrospective study in UK, 2021²
 - 17 patients over span of 20 years
 - Adverse outcomes of foetus or graft in 100% unplanned pregnancies
 - 10% adverse outcomes in planned pregnancies

The Case

- 33 years old young female, 33 weeks gestation
- Obstetric History: Gravida 3. Para 2. 2 previous Caesarean Sections prior to transplant
- Medical History: Diabetes cured, autonomic neuropathy/retinopathy persisted. Smoker
- Surgical History: SPK transplant 3 years previously
- At presentation: High creatinine, low placental growth factor and borderline hypertension
- Renal function deteriorating
- CSE +/- sedation prior to getting close to uterus
- 4 units PRBCs crossmatched
- Transplant/urology surgeons present to mobilize or protect graft
- Urology/colorectal team available for any bowel/vascular complications
- Continued immunosuppression (Tacrolimus & Azathioprine) and close monitoring of levels
- VRII for glucose control during steroids and delivery
- Enoxaparin, last prophylactic dose 12 hours before CS and to continue post-op for 6 weeks
- Control hypertension with labetalol, nifedipine or methyldopa (guided by renal/obstetrics)
- Treat Anaemia (already on Aranesp – synthetic erythropoetin)
- Labour ward HDU care with close monitoring of graft function, blood pressure, glucose, kidney and liver functions
- Had relatively uneventful post-delivery course other than rising potassium day 1. Treated with insulin-dextrose



MRI Scan: Coronal Section

- Renal graft transplanted in left iliac fossa
- Pancreas transplanted right posterolateral to gravid uterus

The Surgery

- Uneventful surgery
- Kidney mapped by transplant surgeons prior to skin incision
- Adhesions ++ but easily mobilized
- Live baby delivered in breech position
- EBL 250ml
- No damage to transplanted organs

MDT Team

- | | |
|-------------------|------------------------------|
| - Transplant team | - Anaesthetics |
| - Urology | - Neonatology |
| - Colorectal | - Renal physicians |
| - Obstetrics | - Endocrine physicians |
| - Gynaecology | - Diabetes Specialist Nurses |

Discussion

Pregnancy outcome in young females with simultaneous Pancreas-kidney transplants is a complex situation which is often further complicated by medical and surgical factors. MDT discussion and pre-planning from antenatal period, through perinatal with meticulous planning of recovery and HDU/ICU care postnatally is cornerstone to have favourable outcomes. This is what was demonstrated in this rare case where all the relevant medical and surgical specialties were involved in planning. We further recommend strongly to adopt this approach and report such cases.

References

1. Gabrielle N, Flora B, Lionel B et al. Pregnancy outcomes in simultaneous pancreas and kidney transplant recipients: a national French survey study. Transplant International. 2017; 30(9): 893-902.
2. Sai RP, Benedict LP, Paramjit C et al. Outcomes of pregnancy in simultaneous pancreas and kidney transplant recipients: A single-center retrospective study. Clinical Transplantation. 2021; 35(10): e14435