

## Pregnancy following kidney transplantation: Experience of a tertiary renal obstetric service between 1996 and 2020

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### Introduction

Compared with dialysis, fertility and pregnancy outcomes are more favourable following transplantation. However, pregnancies post kidney transplant remain challenging due to the risk of adverse maternal and obstetric outcomes

### Methods

All patients with transplants who attended the joint renal obstetric clinic during pregnancy were identified from an in-house obstetric renal database. Demographic and clinical data was collected from the electronic clinical record

### Results

We identified 52 pregnancies in 39 women with previous transplants. The average age at time of delivery was  $33 \pm 3$  years. 57% were white, 17% black and 21% Asian. The aetiology of End Stage Kidney Disease was glomerulonephritis (46%), reflux (17%), unknown (17%), diabetes (10%) and other (10%).

3 patients (5%) miscarried and are not included in further analysis.

The mean time from transplantation to pregnancy was  $84 \pm 56$  months. The mean follow up following delivery is  $6 \pm 5.2$  years. The mean eGFR pre-pregnancy was  $50.8 \pm 16.5$ . The mean eGFR at 6 months, 1 year, 3 years and 5 years was  $49.4 \pm 16.8$ ,  $47.4 \pm 16.9$ ,  $48.0 \pm 18$  and  $52.9 \pm 16.95$ . 1 patient lost their graft during pregnancy and started haemodialysis (pre-pregnancy eGFR 25, PCR 150). No one lost their graft in the 1st year following pregnancy. 5 patients (12%) have subsequently lost their graft at a mean time of  $4 \pm 2.8$  years. 1 patient was presumptively treated for rejection during their pregnancy. 2 patients were treated for rejection within 1 month post-partum. 6 others (14%) had a rejection episode a mean time of  $38.6 \pm 42.4$  months post-partum. There were no maternal deaths. 19 patients have had their Donor Specific Antibodies(DSA) checked post pregnancy. 3 had a DSA, 1 was present pre pregnancy and 2 were de novo. Mean gestational age was  $35.7 \pm 2.7$ , with 43% born at term (>37 weeks) and 43% born pre-term. 5 (10.2%) of those born preterm were born very preterm (<34 weeks). 18 patients (37%) were diagnosed with preeclampsia. There was one intrauterine death. 66% delivered by caesarean section, 33% had a vaginal delivery. The mean birth weight was  $2400 \pm 588$  grams. 24% were small for gestational age.

### Discussion

Pregnancy outcomes in patients with transplants are better compared with those on dialysis. However, complications still occur. We report a 5% miscarriage rate. It is likely that many more women who miscarried did not come to the obstetric renal clinic and were not captured in our database. The rate of preeclampsia (36%) is representative of the current literature & much higher than for women with mild CKD and not transplanted. Diagnosing preeclampsia in patients with pre-existing hypertension and proteinuria, as for many of our transplant patients, remains challenging.

In our experience, reflected here, there are low rates of rejection and graft loss but high rates of obstetric complications. We believe these patients are ideally managed in a joint renal obstetric clinic.