



# Pregnancy and Delivery Outcomes in Solid Organ Transplant Recipients: A Modern Cohort

Jenny Y. Mei, MD, Ophelia Yin, MD, Masaru Negi, MD, Yalda Afshar, MD, PhD  
Division of Maternal Fetal Medicine, Department of Obstetrics and Gynecology, University of California, Los Angeles

## Background

- Pregnancy in kidney and liver transplant recipients incur transplant-related risks combined with maternal physiological changes and have been associated with high-risk pregnancies.

**Objective:** We aimed to investigate obstetrical outcomes in these transplant recipients in a modern cohort.

## Study Design

- We performed a retrospective case-control study of women with history of either kidney or liver transplant compared to a selected group of control patients who delivered at a large academic referral center over eight years (2012 – 2019).
- All previously transplanted patients who delivered a liveborn neonate during the study period were included.
- Controls were selected on similar baseline risk factors as the transplant patients.
- Demographic and outcome data were chart abstracted.
- Independent sample t-test and one-way ANOVA were used to compare means across groups. Chi-square was used to analyze differences between groups.
- Composite maternal morbidity was based on: >4 units PRBCs, ICU admission, sepsis, eclampsia, hysterectomy.
- Composite neonatal morbidity was based on: GA < 32 weeks, BW < 1500g, neonatal death, RDS, seizure, IVH, birth trauma, HIE, necrotizing enterocolitis, BPD, sepsis, pneumonia).

## Results

- 33 transplant pregnancy episodes were included with 35 neonates and a control group of 33 pregnancies with 35 neonates were matched for comparison.
- Mean maternal age and average gestational age at delivery were significantly lower in transplant recipients.
- Transplant recipients had increased risk of preterm delivery, hypertension, antepartum admission, preeclampsia, PPH, and NICU admission.
- Transplant recipients had significantly lower average neonatal birthweight and 5-minute APGAR score.
- There was no difference in mode of delivery, nor in composite maternal or neonatal morbidity.
- A trimodal comparison between kidney versus liver transplant recipients versus controls showed differences in rate of antepartum admission and hypertensive disease.

## Conclusion

- Pregnancy in kidney or liver transplant recipients is associated with various obstetrical risks and complications.
- These are important to discuss with patients for informed decision making and appropriate antepartum and delivery management.

Pregnancy in kidney or liver transplant recipients is associated with obstetrical risks and complications that are important for informed decision making and antepartum and delivery management.



Questions?

Take a picture of this QR code to access a PowerPoint of the poster or email Dr. Jenny Mei at JMei@mednet.ucla.edu

Table 1: Maternal and Neonatal Characteristics Between Transplant Recipients versus Controls

Maternal Characteristics	Transplant (n=33)	Control (n=33)	p-value
Mean maternal age	19.7±9.2	32.2±6.5	0.022
Nulliparity	29 (87.9%)	24 (72.7%)	0.163
Spontaneous Conception	32 (97.0%)	28 (84.8%)	0.172
Preterm delivery	6 (18.2%)	1 (3.0%)	0.046
History of hypertension	21 (63.6%)	4 (12.1%)	<0.001
Antepartum admission	21 (63.6%)	2 (6.1%)	<0.001
Vaginal Delivery	13 (39.4%)	19 (57.6%)	0.467
Postpartum hemorrhage	8 (24.2%)	1 (3.0%)	0.012
Chorioamnionitis	2 (6.1%)	1 (3.0%)	0.555
Preeclampsia	15 (45.5%)	4 (12.1%)	0.003
Administration of IV magnesium	9 (27.3%)	3 (9.1%)	0.057
Maternal morbidity	1 (3.0%)	0 (0%)	0.341
Neonatal Characteristics	Transplant (n=35)	Control (n=35)	p-value
Mean gestational age at delivery	36w0d±24d	38w3d±9d	<0.001
NICU admission	20 (57.1%)	4 (11.4%)	<0.001
Intrauterine Growth Restriction	4 (11.4%)	2 (5.7%)	0.393
Average neonatal birthweight	2490±721g	3188±518g	<0.001
5-minute APGAR score	8.4±0.9	8.8±0.6	0.036
Neonatal morbidity	6 (17.1%)	2 (5.7%)	0.133

Table 2: Maternal and Neonatal Characteristics between Kidney versus Liver Transplant Recipients versus Controls

Maternal Characteristics	Kidney Transplant (n=17)	Liver Transplant (n=18)	Control (n=18)	p-value
Mean maternal age	32.9±6.0	27.8±5.6	33.8±7.5	0.016
Antepartum admission	11 (4.7%)	10 (55.6%)	2 (11.1%)	0.003
Hypertensive disease	13 (76.5%)	8 (44.4%)	1 (5.6%)	<0.001