

The Timing of Pregnancy after Kidney Transplantation and Risk of Graft Loss

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Summary: The optimal timing of pregnancy after kidney transplantation remains uncertain. In this analysis of 23,981 female first-kidney only transplant recipients of child-bearing age (15-45 years), primarily insured by Medicare between 1990 and 2008 captured in the USRDS, 624 women were identified as becoming pregnant during the first three post transplant years using previously published methods based on Medicare claims. In a Cox multivariate regression analysis adjusted for differences in age, race, cause of ESRD, donor source, pre-transplant dialysis exposure, HLA match, PRA, transplant year, and maintenance immunosuppression, the n = 189 women who became pregnant in the first post transplant year (HR =1.21, 95% confidence interval (CI), 1.00, 1.46), and the n= 224 women who became pregnant in the second post transplant year (HR = 1.21, 95% CI, 1.01, 1.45), but not the n = 216 women who became pregnant in the third post-transplant year (HR = 0.96, 95% CI 0.79, 1.18) had an increased risk of death censored graft loss compared to women who never became pregnant during these time intervals.

In a secondary multivariate Cox regression restricted to the n =576 women who became pregnant during the first three post transplant years and who had a functioning allograft three years after transplantation, women who became pregnant in the first post transplant year (HR =1.36, 95% CI, 1.01, 1.84), but not the second post transplant year (HR 1.26, 95% CI 0.94, 1.68) had an increased risk of death censored graft loss compared to women who became pregnant in the third post-transplant year.

Table : Hazard Ratios for Graft Loss in Pregnant Women versus Non-Pregnant Women ¹		
Pregnancy Year (post-transplant)	Death-Censored Graft Loss	
	Hazard Ratio	N
Year 1 ²	1.21 (1.00, 1.46)	23981
Year 2 ³	1.21 (1.01, 1.45)	22440
Year 3 ⁴	0.96 (0.79, 1.18)	21232

¹ Cox Proportional Hazards Model adjusted for age, race, cause of ESRD, donor source, dialysis vintage, HLA match, peak PRA, calendar year of transplant, and maintenance immunosuppression.

² Reference group: Women with graft survival to at least 3 months who did not become pregnant in year 1

3 Reference group: Women with graft survival to year two who did not become pregnant in year 2
 4 Reference group: Women with graft survival to year three who did not become pregnant in year 3

N=624 pregs (N=184(29%) year 1; 224(36%) yr 2; 216 (35%) yr 3)

Table : Hazard Ratios for Graft Loss in Pregnant Women versus Non-Pregnant Women ¹		
Pregnancy Year (post-transplant)	Death-Censored Graft Loss	
	Hazard Ratio	
Year 1	1.36 (1.01, 1.84)	
Year 2	1.26 (0.94, 1.68)	
Year 3 ²	1.00	

1 Cox Proportional Hazards Model adjusted for age, race, cause of ESRD, donor source, dialysis vintage, HLA match, peak PRA, calendar year of transplant, and maintenance immunosuppression.

2 Reference group: Women who survived with function to the beginning of the 3rd year and were pregnant.