KIDNEY TRANSPLANTATION AND PREGNANCY: JUST ANOTHER FORM OF CKD?

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Introduction and aims

Kidney transplantation is usually mentioned as the best way to restore fertility in a woman with severe CKD or on dialysis. The reasons why materno-fetal outcomes are inferior to those of the overall population are only partially known. Comparison with the CKD population with similar degree of renal function impairment may help unraveling this clue and offer some insights for management and counseling.
Aim of this study was to analyse the outcomes of pregnancy after kidney transplantation in a multicentric national cohort, compared with a large population of non-transplanted CKD patients and with low-risk control pregnancies.

Methods:

Sources of data: Transplant patients: Database of the Italian Study Group on Kidney and Pregnancy (188 cases, 2013 partial updating). CKD and low-risk controls: the TOCOS cohort ((Torino Cagliari Observational Study) gathering all the CKD patients observed in the two Centers with the highest recruitment of CKD patients in pregnancy in Italy and following them within a conjoint nephrological and obstetrical program (504 cases).
Low-risk controls (835 singleton pregnancies, from the TOCOS cohort). Period of study: 2000-2013.
The following outcomes were considered: maternal and fetal death; malformations; preterm delivery; small for gestational age (SGA); need for neonatal intensive care unit (NICU). Data were analysed according to kidney diseases, renal function , hypertension, maternal age, partity, ethnicity.

Results:

	CKD stage 1			CKD stage 2			CKD stage 3		
	transplants	CKD	P:	transplants	CKD	P:	transplants	CKD	P:
N	40	367		88	81		60	28	
Age (yrs)	32.3±4.2	31.2 ±5.6	0.149	32.5±3.9	33.8 ± 4.5	0.037	33.7±4.0	33.4 ± 4.6	0.685
Cesarean%	75.0%	48.0%	0.002	82.6%	69.1%	0.064	90.0%	75.0%	0.104
Gestation week	36.6±2.8	37.6 ±2.6	0.031	35.7±2.9	35.7 ± 3.2	0.869	34.9±2.7	34.6 ± 2.6	0.636
<37 week%	35.0%	23.2%	0.143	59.3%	50.6%	0.331	69.0%	75.0%	0.746
<34 week%	10%	7.1%	0.520	19.8%	21.0%	0.997	32.8%	32.1%	1.0
birth-weight (g)	2619 ± 695	2972 ± 654	0.002	2471 ± 585	2502 ± 711	0.764	2237± 612	2258 ± 617	0.881
SGA <10%	33.3%	13.1%	0.003	17.7%	15.4%	0.858	23.6%	25.0%	1.0
SGA <5%	25.0%	4.9%	<0.001	10.1%	5.1%	0.380	10.9%	7.1%	0.711

Materno-fetal outcomes are less favourable in CKD patients as compared with the low-risk population. CKD stage and hypertension are important determinants of results. Transplanted patients with e-GFR >90 have worse outcomes compared with CKD stage 1 patients; however, the differences level off when only CKD patients affected by glomerulonephritis or systemic diseases (taken as examples of progressive kidney diseases) are compared with transplanted patients. No significant difference was found in materno-foetal outcomes between CKD stage 2-5 and grafted patients with comparable kidney function.

Conclusions:

The materno-fetal outcomes in patients with kidney transplantation are comparable with those of non-transplanted CKD patients with similar levels of kidney function impairment and with progressive and/or immunologic kidney disease, or with impaired kidney function.

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