

HLA specific antibody profile changes after pregnancy in renal transplant recipients

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Background and objectives

Transplantation and pregnancy are known to be major sensitizing events. The aim of this study is to describe the HLA specific antibody profile and how it changes when exposed initially to transplantation and consecutively to pregnancy. Patients included in this study are female transplant recipients who underwent one or multiple pregnancies after receiving a renal transplant (RT)

Design

Data describing the HLA specific antibody profile changes was provided by the Transplantation Laboratory. We looked at RT recipients who underwent a pregnancy between September 2006 and February 2017. Data was collected using the UK Obstetric Surveillance System (UKOSS) forms.

Results

We identified 20 pregnancies from 16 patients. 4 patients had HLA specific antibodies before receiving a RT, 9 did not have HLA specific antibodies and 7 had unknown status.

Post renal transplantation 5 out of 9 patients HLA Ab negative did not develop new antibodies. The remaining 4 patients experienced an increase in the calculated reaction frequency (cRF) from 0 to 34%, 44%, 61% and 70% respectively.

Patients who had HLA specific antibodies present pre transplantation, their cRF were 20%, 75%, 60% and 50%. From this subgroup, post transplantation, only one had a 20% increase to her cRF.

After the second sensitizing event, the pregnancy, the 4 patients with cRF of 0 % remained at 0 % and only one had an increase in her cRF from 0% to 97%. However, the patients who had pre pregnancy HLA specific antibodies, have had a further increase to their cRF from 48% to 80%, 61% to 93%, 44% to 59%.

Conclusion

In this group of patients, the ones who initially did not develop HLA specific antibodies after the first sensitizing event, renal transplantation, tended to remain with a cRF of 0% even after the second sensitizing event- pregnancy. From all the included patients 10% became highly sensitized after being exposed to RT and subsequently to pregnancy.

#	HLA Abs Pre-Tpx	cRF Pre-Tpx	HLA Abs Post-tpx Pre-delivery	cRF Post-Tpx Pre-delivery	HLA Abs Post-Delivery	cRF Post Delivery
1	Positive	20%	Positive*	48%	Positive *	80%
3	Negative	0%	Positive *	61%	Positive *	92%
5	Negative	0%	Negative	0%	Negative	0%
8	Negative	0%	Negative	0%	Negative	0%
10	Negative	0%	Negative	0%	Negative	0%
10	Unknown	Unknown	Unknown	Unknown	Negative	Unknown
11	Negative	0%	Positive*	34%	Negative	0%
12	Positive	75%	Positive	75%	Positive *	75%
13	Negative	0%	Positive*	44%	Positive*	59%
14	Negative	0%	Negative	0%	no samples	no samples
15	Negative	0%	Negative	0%	Negative	0%
16	Positive	60%	Positive	60%	Positive	60%
17	Positive	56%	Negative	0%	Positive*	97%
18	Negative	0%	Positive*	70%	Positive	55%
21	Unknown	Unknown	Unknown	Unknown	Positive	35%
22	No Information	Unknown	Unknown	Unknown	Unknown	Unknown
23	Unknown	Unknown	Negative	0%	Negative	0%
24	Unknown	Unknown	Negative	0%	Negative	0%
25	Unknown	Unknown	Negative	0%	Negative	0%
26	Unknown	Unknown	Negative	0%	Negative	0%

Resources

National Perinatal Epidemiology Unit (NPEU) sources, UKOSS- Renal-Transplant-Recipients
Public Health England, GOV.UK