

The Potential for Paired Living Kidney Donation in the UK

RJ Johnson, JE Blackwell, L Burnapp, DC Pugh, SV Fuggle, CJ Rudge

On behalf of the UK Transplant Kidney and Pancreas Advisory Group, UK Transplant, Bristol, BS34 8RR, United Kingdom

ABO incompatibility and the presence of donor-specific HLA antibody preclude many potential living donor kidney transplants. From April 2006, the Human Tissue Act will enable paired donation in the UK, whereby incompatible donor-recipient pairs can exchange kidneys so that recipients can receive alternative compatible living donor organs. This study aims to identify the potential for establishing a paired kidney donation scheme in the UK.

All transplant centre based UK living donor transplant co-ordinators were contacted in Autumn 2005 and asked to provide data on living donor kidney transplants that could not proceed because of ABO or HLA incompatibility.

Information received from 13 centres relating to the last 2 years (290 pairs) showed 46% of potential donor-recipient pairs were ABO incompatible and 54% were HLA incompatible.

The demographics of the potential recipients were - age 43 ± 1.5 years, 53% female, 87% white. 20% were incompatible with more than one prospective donor. 61% of the potential recipients are on the deceased donor transplant list, 13% have received a deceased donor transplant and 3% have received an alternative living donor transplant. The mean age of the prospective donors was 44 ± 1.5 years and 32%, 28% and 19%, respectively, were spouse/partners, siblings or parents of the potential recipients. Blood group distributions of the potential recipients and their donors are different from those in normal donor and recipient pools, as shown below, and suggest that too few blood group O donors will be available to meet demand.

To inform discussion on the complex issues surrounding the establishment of a paired kidney donation scheme, the data collected will be used in computer simulation models developed to compare and contrast the effectiveness of alternative matching algorithms.

	Donor blood group (%)				Recipient blood group (%)			
	O	A	B	AB	O	A	B	AB
Blood group incompatible	0	61	27	12	79	11	10	0
HLA incompatible	62	29	8	1	38	41	17	4
All	33	44	17	6	57	28	14	2
Deceased donors/Tx list	48	39	10	2	50	33	14	3