

NHS BLOOD AND TRANSPLANT ORGAN AND TISSUE DONATION AND TRANSPLANTATION DIRECTORATE

HCV positive donors

BACKGROUND

- 1 Since March 2019 solid organ transplant programs in Scotland and Wales have been able to seek approval to apply for funding for HCV treatments for transplant recipients of HCV positive organs, thereby allowing transplant of HCV positive organs to negative recipients. From October 2019, this was also in place for programs in England and Northern Ireland.
- 2 Each UK transplant centre must apply for this funding and meet the preconditions before being entered into the program. A list of approved centres is in the Appendix.
- 3 This paper provides a summary of HCV positive donors offered in the UK since the introduction of the program.

DATA

- 4 Donors identified as HCV positive or had an indeterminate result on the UKTR and had organs offered for transplant between 1 March 2019 and 30 September 2023, were investigated. Some of these donors may have been offered as HCV positive or indeterminate and subsequently found to be HCV RNA negative.

RESULTS

- 5 There were 132 patients identified as HCV positive or had an indeterminate result, who had at least one solid organ offered for donation. Of those 132, 67 (50.8%) became solid organ donors, having at least one solid organ retrieved with the intention to transplant.
- 6 **Table 1** shows the number of each organ offered from these 132 donors and the outcome. Overall, 630 organs were offered, 218 (35%) were accepted, 154 were retrieved and 120 organs (78% of those retrieved) were transplanted. This resulted in 116 transplants as two were simultaneous pancreas and kidney transplants, two kidneys were transplanted as one double kidney and one was a double lung transplant.
- 7 **Table 2** shows the reasons given for not retrieving or retrieving and not transplanting the organs. The main reason given for kidneys was “donor unsuitable – virology” but for livers was “donor unsuitable – past history”. The majority of organs were not retrieved and only 28 kidneys, five livers, one pancreas and one lung pair were accepted and retrieved but subsequently not transplanted.

- 8 The 116 transplants came from 59 donors, 23 (39%) were confirmed as HCV RNA positive and 36 (61%) were negative shown in **Table 3**. The 23 donors confirmed as HCV RNA positive resulted in 30 kidney and nine liver transplants.
- 9 Of the 28 kidney transplants from HCV RNA positive donors, 18 were performed in Cardiff, three in Oxford, three in Edinburgh, two in Belfast and two at Royal Free. All recipients were HCV negative pre-transplant. Follow-up is currently available for 25 of the 28 recipients: one graft failed within 30 days and 24 are known to be functioning: six at less than one year, seven between 1 and 2 years and eleven at over two years post-transplant.
- 10 The nine liver transplants from HCV RNA positive donors, were performed at Birmingham, Royal Free (2), Edinburgh (4) and Cambridge (2). Two recipients were HCV RNA positive pre-transplant, one was HCV RNA negative (antibody positive) and six were HCV antibody negative. Of the two HCV RNA positive recipients, one transplant failed and the recipient died and one was known to be functioning at greater than three years post-transplant. The HCV RNA negative (antibody positive) recipient's graft was functioning at less than one year post-transplant. Of the HCV antibody negative recipients' grafts, two had no follow-up and four were functioning: one at less than one year; two at greater than one year and one at greater than two years post-transplant.

Organ	Organs Offered	Accepted	% of offered	Retrieved	% of accepted	Transplanted	% of retrieved
Kidney	253	142	56.1	111	78.2	83	74.8
Liver	115	50	43.5	35	70.0	30	85.7
Pancreas	94	11	11.7	3	27.3	2	66.7
Heart	52	7	13.5	3	42.9	3	100.0
Lung	100	8	8.0	2	25.0	2	100.0
Small bowel	15	0	0.0	0	.	0	.
Total	629	218	34.7	154	70.6	120	77.9

Table 2 Primary reason recorded for organ not retrieved or retrieved and not used when offered from 132 HCV antibody positive or indeterminate result donors, 1 March 2019 to 30 September 2023

Primary overall reason recorded	Kidneys		Livers		Pancreases		Small bowels		Hearts		Lungs ¹	
	N	%	N	%	N	%	N	%	N	%	N	%
Donor unsuitable - virology	68	40.0	20	23.5	41	44.6	10	66.7	32	65.3	23	46.9
Donor unsuitable - past history	39	22.9	34	40.0	30	32.6	2	13.3	5	10.2	7	14.3
No suitable recipients	20	11.8	12	14.1	9	9.8	2	13.3	6	12.2	10	20.4
Other	20	11.8	8	9.4	2	2.2	.	.	.	.	.	.
Poor perfusion	5	2.9	.	.	.	.	.	.	.	.	.	.
Anatomical	4	2.4	.	.	1	1.1	.	.	.	.	.	.
Organ damaged	3	1.8	.	.	.	.	.	.	.	.	.	.
Family permission refused	2	1.2	.	.	.	.	.	.	.	.	.	.
Permission refused by coroner	2	1.2	2	2.4	.	.	.	.	.	.	.	.
Poor function	2	1.2	.	.	.	.	.	2	4.1	1	2.0	.
Infection	2	1.2	.	.	.	.	.	.	.	.	.	.
Medication	1	0.6	.	.	.	.	.	.	.	.	.	.
Ischaemia time too long - cold	1	0.6	.	.	.	.	.	.	.	.	.	.
Recipient refused	1	0.6	.	.	.	.	.	.	.	.	.	.
Donor unsuitable - age	.	.	2	2.4	2	2.2	.	.	.	.	.	.
Donor unsuitable - size	.	.	.	.	4	4.3	.	.	1	2.0	2	4.1
No time	.	.	.	.	.	.	.	.	1	2.0	.	.
Centre already retrieving/transplanting	.	.	.	.	.	.	.	.	.	.	1	2.0
Centre criteria not achieved	.	.	.	.	.	.	.	.	.	.	1	2.0
Ischaemia time too long - warm	.	.	1	1.2	.	.	.	.	.	.	.	.
No response to fast track offer	.	.	1	1.2	2	2.2	1	6.7	2	4.1	3	6.1
Used for research after declined by centres	.	.	2	2.4	.	.	.	.	.	.	.	.
Fatty organ	.	.	2	2.4	1	1.1	.	.	.	.	.	.
Donor unsuitable - medical reason	.	.	.	.	.	.	.	.	.	.	1	2.0
Organ fibrotic	.	.	1	1.2	.	.	.	.	.	.	.	.
Total	170	100.0	85	100.0	92	100.0	15	100.0	49	100.0	49	100.0

¹One reason per pair of lungs

Table 3 Transplants performed by donor HCV RNA status, 1 March 2019 to 30 September 2023

Donor HCV RNA status	Organs transplanted					Total transplants	Donors
	Kidney	Liver	Pancreas	Heart	Lung		
Negative	55 ¹	21	2 ¹	3	2 ²	79	36
Positive	28	9	0	0	0	37	23
Total	83¹	30	2¹	3	2²	116	59

¹ Two SPK transplants and 1 double kidney

² One double lung transplant

Appendix

List of approved centres as at January 2023

Cardiac	Liver	Kidney	Pancreas	SPK	IFALD
Birmingham Papworth	Birmingham Edinburgh Royal Free Newcastle Leeds Cambridge Kings	Belfast Edinburgh Cardiff Leeds Royal Free Oxford Cambridge Newcastle Liverpool		Edinburgh Cardiff Oxford Cambridge Newcastle	