

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 31 March 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 117 patients identified as HCV positive or had an indeterminate result, who had at least one solid organ offered for donation. Of those 117, 55 (47.0%) 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 117 donors and the outcome. Overall, 559 organs were offered, 174 (31%) were accepted, 123 were retrieved and 91 organs (74% of those retrieved) were transplanted. This resulted in 88 transplants as two were simultaneous pancreas and kidney transplants 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 25 kidneys, five livers and 1 lung pair were accepted and retrieved but subsequently not transplanted.
- 8 The 88 transplants came from 47 donors, 21 (45%) were confirmed as HCV RNA positive and 26 (55%) were negative shown in **Table 3**. The 21 donors confirmed as HCV RNA positive resulted in 25 kidney and eight liver transplants.

- 9 Of the 25 kidney transplants from HCV RNA positive donors, 18 were performed in Cardiff, three in Oxford, two in Edinburgh and two in Belfast. 23 recipients were HCV negative pre-transplant and for two recipients the data are not yet available. Follow-up is currently available for 17 of the 25 recipients: one graft failed within 30 days and 16 are known to be functioning: five at less than one year and 10 at over one year and one at over two years post-transplant.

- 10 The eight liver transplants from HCV RNA positive donors, were performed at Birmingham, Royal Free (2), Edinburgh (3) and Cambridge (2). Two recipients were HCV RNA positive pre-transplant, one was HCV RNA negative (antibody positive) and five 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, one had no follow-up and four were functioning: two at less than one year; one at greater than one year and one at greater than two years post-transplant.

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Organ	Organs Offered	Accepted	% of offered	Retrieved	% of accepted	Transplanted	% of retrieved
Kidney	223	112	50.2	87	77.7	62	71.3
Liver	102	42	41.2	28	66.7	23	82.1
Pancreas	83	8	9.6	2	25.0	2	100.0
Heart	47	4	8.5	2	50.0	2	100.0
Lung	90	8	8.9	4	50.0	2	50.0
Small bowel	14	0	0.0	0	.	0	.
Total	559	174	31.1	123	70.7	91	74.0

Table 2 Primary reason recorded for organ not retrieved or retrieved and not used when offered from 117 HCV antibody positive or indeterminate result donors, 1 March 2019 to 31 March 2023

Primary overall reason recorded	Kidneys		Livers		Pancreases		Small bowels		Hearts		Lungs ¹	
	N	%	N	%	N	%	N	%	N	%	N	%
Donor unsuitable - virology	68	42.2	18	22.8	39	48.1	9	64.3	30	66.7	23	52.3
Donor unsuitable - past history	39	24.2	31	39.2	26	32.1	2	14.3	5	11.1	6	13.6
No suitable recipients	16	9.9	11	13.9	6	7.4	2	14.3	6	13.3	8	18.2
Poor perfusion	4	2.5	.	.	.	.	.	.	.	.	.	.
Organ damaged	3	1.9	.	.	.	.	.	.	.	.	.	.
Family permission refused	2	1.2	.	.	.	.	.	.	.	.	.	.
Permission refused by coroner	2	1.2	2	2.5	.	.	.	.	.	.	.	.
Poor function	2	1.2	.	.	.	.	.	2	4.4	1	2.3	.
Infection	2	1.2	.	.	.	.	.	.	.	.	.	.
Anatomical	2	1.2	.	.	.	.	.	.	.	.	.	.
Medication	1	0.6	.	.	.	.	.	.	.	.	.	.
Ischaemia time too long - cold	1	0.6	.	.	.	.	.	.	.	.	.	.
Recipient refused	1	0.6	.	.	.	.	.	.	.	.	.	.
Donor unsuitable - age	.	.	2	2.5	2	2.5	.	.	.	.	.	.
Donor unsuitable - size	.	.	.	.	4	4.9	.	.	.	.	1	2.3
No time	.	.	.	.	.	.	.	1	2.2	.	.	.
Centre already retrieving/transplanting	.	.	.	.	.	.	.	.	.	.	1	2.3
Centre criteria not achieved	.	.	.	.	.	.	.	.	.	.	1	2.3
Ischaemia time too long - warm	.	.	1	1.3	.	.	.	.	.	.	.	.
No response to fast track offer	.	.	1	1.3	2	2.5	1	7.1	1	2.2	2	4.5
Used for research after declined by centres	.	.	2	2.5	.	.	.	.	.	.	.	.
Fatty organ	.	.	2	2.5	.	.	.	.	.	.	.	.
Donor unsuitable - medical reason	.	.	.	.	.	.	.	.	.	.	1	2.3
Organ fibrotic	.	.	1	1.3	.	.	.	.	.	.	.	.
Other	18	11.2	8	10.1	2	2.5	.	.	.	.	.	.
Total	161	100.0	79	100.0	81	100.0	14	100.0	45	100.0	44	100.0

¹One reason per pair of lungs

Table 3 Transplants performed by donor HCV RNA status, 1 March 2019 to 31 March 2023

Donor HCV RNA status	Organs transplanted					Total transplants	Donors
	Kidney	Liver	Pancreas	Heart	Lung		
Negative	37 ¹	15	2 ¹	2	2 ²	55	26
Positive	25	8	0	0	0	33	21
Total	62¹	23	2¹	2	2²	88	47

¹ Two SPK transplants

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	