

NHS BLOOD AND TRANSPLANT

MULTI-VISCERAL AND COMPOSITE TISSUE ADVISORY GROUP

COLON CONTAINING GRAFT ACTIVITY AND OUTCOMES

INTRODUCTION

- 1 This paper presents activity over a recent eleven-year period of intestinal transplants containing the colon for adult patients with patient outcomes comparing patients who received a colon with those who did not. Activity is presented by year and centre. Kaplan-Meier methods were utilised to provide unadjusted patient survival and the log-rank test used to compare survival between the two groups.
- 2 All small bowel transplants into adult recipients between 1 January 2010 and 31 December 2020 were considered for the activity summary. For the patient outcomes, this cohort was restricted to first transplants only where survival information is available.

DATA ANALYSIS

- 3 Between 1 January 2010 and 31 December 2020, there were 150 adult small bowel transplants. Of these, 97 (65%) contained the colon. **Figure 1** shows the number of transplants by year, split by whether or not they contained the colon. At the start of the period, there were no transplants containing the colon but there has been an increase in its inclusion, with colon containing grafts accounting for a large proportion each year for the second half of the period. **Figure 2** shows the number of colon containing transplants by year and centre, with Cambridge performing a higher number of colon containing transplants.
- 4 Of the 150 transplants in the period, 140 of these were first transplants and had survival information available. 92 of the 140 transplants contained the colon. **Table 1** shows the 90-day, 1-year, and 5-year unadjusted survival estimates for these patients. Overall, the 5-year survival rate is 58.4% (95% confidence interval (CI): 47.9-67.6%) and there is no significant difference between the colon-included and no-colon-included groups at any time ($p=0.40$ at 5 years; data not shown). When the colon inclusion groups are broken down by transplant type, there is a statistically significant difference at 1 year ($p=0.04$); the significance most likely arises from the low survival in the no colon, liver included group but the number of transplants informing this estimate is small.

ACTION

- 5 This report is presented for members' information. Members are asked to review it and comment. In particular, if colon containing graft activity and outcomes should be included in the regular 'Patient survival after intestinal transplant' Spring MCTAG paper. The survival paper currently presents short-, medium- and long-term patient survival rates by age group (adult or paediatric) and by transplant type (i.e. organs transplanted) within age group. It also presents patient survival up to 5 years for abdominal wall containing transplants and a summary of outcome of super-urgent intestinal transplants, as well as summaries of causes of patient death and causes of graft failure after first elective intestinal transplantation. Are additional data on colon inclusion needed?

Figure 1 Adult intestinal transplant activity, by year and colon inclusion, 1 January 2010 – 31 December 2020

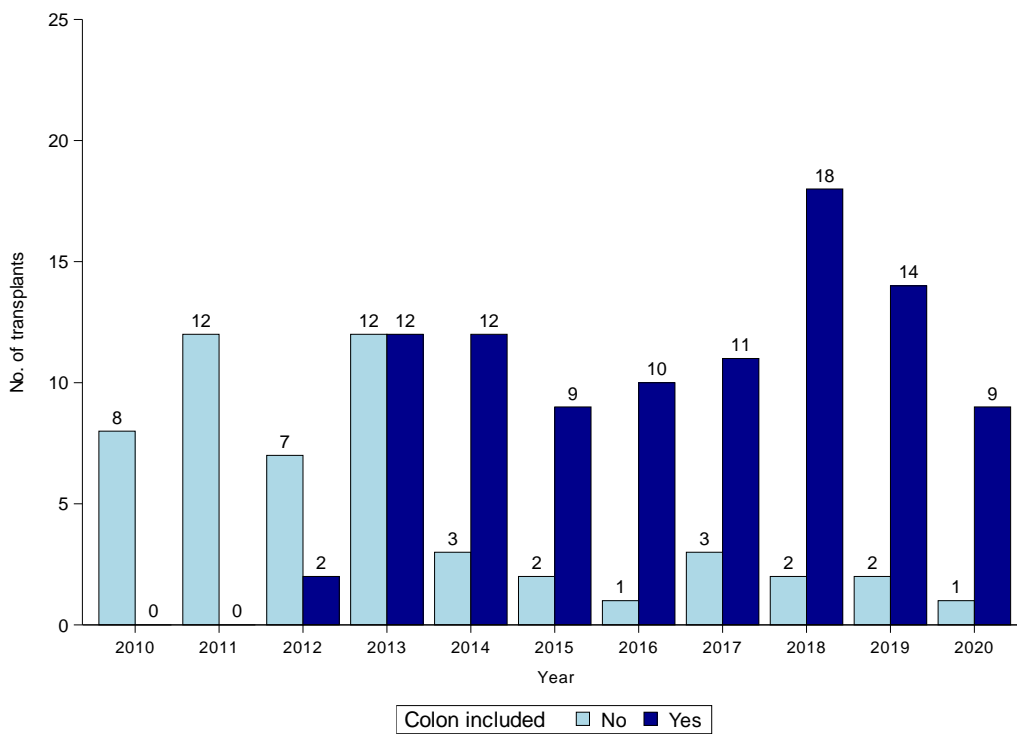


Figure 2 Adult colon containing intestinal transplant activity, by year and centre, 1 January 2012 – 31 December 2020

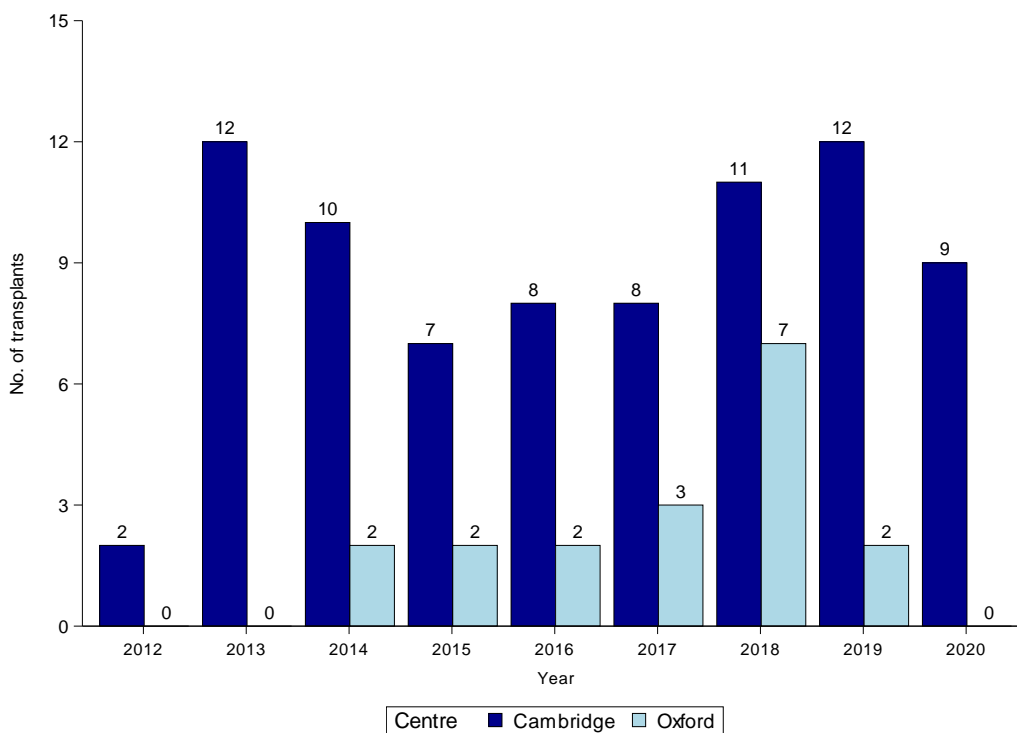


Table 1 Patient survival rates following first intestinal transplant by colon inclusion, 1 January 2010 – 31 December 2020

Colon inclusion and transplant type	Number of txs	90-day survival (95% CI)		1-year survival (95% CI)		5-year survival (95% CI)²	
No colon							
Including liver	15	80.0	(50.0 – 93.1)	66.7	(37.5 – 84.6)	-	-
Not including liver ¹	33	90.9	(74.4 – 97.0)	90.9	(74.4 – 97.0)	72.6	(52.2 – 85.4)
Colon included							
Including liver	38	92.1	(77.5 – 97.4)	73.3	(56.0 – 84.6)	45.3	(25.7 – 63.1)
Not including liver	54	98.1	(87.6 – 99.7)	87.7	(74.5 – 94.3)	76.5	(57.9 – 87.7)
Log-rank p-value		0.07		0.04			
Total	140	92.9	(87.1 - 96.1)	82.3	(74.7 - 87.7)	58.4	(47.9 - 67.6)

¹ Includes intestine only.

² Five-year survival estimates for no colon, including liver are not presented due to small numbers. The overall log-rank p-value at 5 years is not presented for the same reason.