

**NHS BLOOD AND TRANSPLANT
ORGAN DONATION AND TRANSPLANTATION DIRECTORATE**

PANCREAS ADVISORY GROUP ISLET STEERING GROUP

ORGAN DAMAGE

INTRODUCTION

- 1 At the April 2017 meeting there was an action to investigate the level of damage reported for organs intended for whole pancreas transplantation. This paper reports on the information reported on the HTA B form on grade of surgical damage for pancreases that were accepted for whole pancreas transplantation.
- 2 Information reported on damage and quality from the 'Pancreas Damage' sections by the retrieval team and recipient transplant centre of the Deceased Donor Pancreas Information (DDPI) Form have also been investigated.

DATA

- 3 Data on 315 donors between 1 April 2017 and 31 March 2018 whose pancreas was taken and accepted for whole pancreas transplantation were analysed from the UK Transplant Registry (UKTR).

RESULTS

- 4 Of the 315 donor pancreases accepted, 186 (59%) were transplanted. **Table 1** shows the grade of damage reported on the HTA B form by whether or not the pancreas was transplanted. 58 (18%) had a grade of surgical damage reported on the HTA B form, with 22 (38%) of these reporting 'severe' damage. The recorded descriptions relating to reported surgical damage are provided in Table A in the Appendix.

Table 1 Pancreas damage reported on HTA B form for a pancreas that was accepted for a whole pancreas patient, 1 April 2017 - 31 March 2018			
Grade of surgical damage reported on HTA B form	Not		Total
	Transplanted	Transplanted	
None	156	66	222
Mild = no surgical repair required	22	7	29
Moderate = surgical repair required to make usable	5	2	7
Severe = not used due to damage	0	22	22
Not Reported = organ not received at accepting centre	0	16	16
Missing form	3	16	19
Total	186	129	315

- 5 Of the seven with 'moderate' surgical damage, five were transplanted and reported as having no significant impact on the recipient's health. Of the two pancreases that were not transplanted, one was expected to have had a

significant impact on the recipient’s health and the resulting reason for not transplanting was due to organ damage. The other one was reported as not having a significant impact on the recipient as it was not transplanted and although the damage could have been repaired, it was too high a risk for that particular recipient.

- 6 For the 22 pancreases that had ‘severe’ surgical damage reported, the sections relating to organ damage/quality reported by the retrieval team and the recipient transplant centre on the Deceased Donor Pancreas Information (DDPI) form were also investigated. Thirteen (60%) forms were completed and returned by the retrieval team and of these, six also had the section completed by the recipient centre.
- 7 Of the six DDPI forms that had both sections completed all had reported at least one type of damage/quality issue on the recipient transplant centre section and three had at least one type of damage/quality issue reported on the retrieval section. **Table 2** shows the comparison in damage/quality reporting between the two sections for the six recipients.

Pancreas	Damage/quality reported on Recipient section	Damage/quality reported on Retrieval section
1	Pancreas fatty, capsule damage, other damage – ‘large lymph nosed x 5 no tie on bile duct? contamination?’	Other damage – ‘Mild’
2	Capsule damage, other damage – ‘pancreas not perfused’	None reported
3	Pancreas fatty, other damage – ‘capsular injury to portal vein’	Arterial supply damage, pancreatic oedema, pancreas fatty
4	Haematomas, other damage – ‘duodenum not flushed splenic vein thrombus’	Haematomas
5	Other damage – ‘duodenal staple line not closed - contamination of graft’	None reported
6	Capsule damage, parenchymal damage other damage – ‘proximal duodenal staple line too close to head’	None reported

ACTION

- 8 Members are reminded that if the accepting centre receive a pancreas that has severe surgical damage then an incident must be raised via the ODT website [link](#). Only by raising an incident can the data be monitored and acted upon. Members are also reminded of the importance of the completion and return of the HTA B and the DDPI forms to ODT Information Services.
- 9 Members are asked to consider the information presented and make any recommendations as appropriate.

Appendix

Table A below presents the description provided for the 58 pancreases that had reported surgical damage on the HTA B form. The highlighted rows show the 27 pancreases that were transplanted.

Table A Description of the damage for the 58 pancreases that were accepted for whole organ transplantation and had surgical damage reported on the HTA B form	
Surgical grade reported	Description of the organ damage
Mild	PORTAL VEIN 1MM LENGTH, DIATHERMY INJURY TO PANCREAS.
Mild	GASTRIC STAPLE LINE SHORT AND ON PANCREAS CAPSULE.
Mild	ARTERIES PROVIDED HAD A SIGNIFICANT CUT THAT NEEDED REPAIR - POSSIBLE CAUSE OF THROMBOSIS
Mild	VERY SHORT PORTAL VEIN SMALL HAEMATOMA AROUND PORTAL VEIN
Mild	PORTAL VEIN SHORT < 1CM
Mild	CUT TO SIDE OF PORTAL VEIN - THEREFORE DECISION TO CUT PORTAL VEIN SHORT
Mild	CAPSULAR TEAR ON THE TAIL OF THE PANCREAS
Mild	PROBABLE TRACTION INJURY ON PORTAL VEIN AS EXTRAVASATION OF PERFUSION FLUID DURIN BENCHING. SHORT PORTAL VEIN WITH DISSECTION IN THE PANCREAS HEAD AROUND THE VEIN EXPOSING PARENCHYMA AND VESSELS IN DEEPER PLANE. DAMAGED Y GRAFT AT INT LLIAC ARTERY PART DUE TO TRACTION THAT NEEDED EXCISION.
Mild	LACERATED SPLENIC TAK WITH EXPOSED SPLENIC VESSELS
Mild	Haematoma on duodenum and tail of Pancreas
Mild	DUODENUM SEROSAL TEAR
Mild	CUT ON THE DORSAL PANCREATIC ARTERY PANCREAS SMALL PORTAL VEIN CUT <5MM
Mild	CAPSULAR DAMAGE
Mild	Capsular injury
Mild	PANCREAS NO DAMAGE VESSELS CUT INJURY AT BIFURCATION OF COMMON ILIACS REPAIRED AT BACK BENCH
Mild	DONOR DUODENUM HAEMATOMA TEAR ON PORTAL VEIN BRANCH CAUSING WALL HAEMATOMA
Mild	SMALL CAPSULE TEAR, HEAD OF PANCREAS
Mild	1. MODERATELY FATTY 2. MILDLY FIBROTIC 3. HAEMATOMA OF D2/D3 (3CM) 4. SPLENIC ARTERY CUT VERY SHORT COMMON OSTIA WITH DORSAL PANCREATIC ARTERY
Mild	CAPSULAR TEAR
Mild	SMALL CAPSULAR TEAR, FATTY PANCREAS.
Mild	CAPSULAR TEAR
Mild	PARTIAL VEIN HAD TO BE CUT DUE TO A TANSVERSE INVASION
Mild	SHORT PORTAL VEIN 4MM TO CONFLUENCE. PANCREAS CAPSULE INJURY
Mild	NO PORTAL VEIN LENGTH VEIN CUT FLUSH WITH SMV/SPLENIC VEIN GOOD JUDGEMENT REGARDS SENDING NECK VESSELS
Mild	PARENCHYMAL CUT @ THE NECK OF PANCREAS AROUND PORTAL VEIN
Mild	SMALL TEAR AT BIFURCATION OF ILIAC Y GRAFT
Mild	2 SEROSAL TEARS IN THE SMALL BOWEL & BILE DUCT LEFT OPEN

Table A Description of the damage for the 58 pancreases that were accepted for whole organ transplantation and had surgical damage reported on the HTA B form	
Surgical grade reported	Description of the organ damage
Mild	CAPSULAR TEAR HEAD OF PANCREAS
Mild	CUT TO SPLENIC ARTERY NEAR DISTAL PART OF TAIL. (SPK TRANSPLANT)
Moderate	2: HAEMATOMA + SEROSAL INJURY TO DUODENUM
Moderate	TEAR TO THE ILIAC ARTERY Y-GRAFT MM REQUIRING SURGICAL RECONSTRUCTION
Moderate	Issues with arteries (NB: organ not transplanted due to cut to splenic artery which could be repaired but with increased risk to the recipient - so, impact on recipient's health is not applicable, however as grade of damage rated a '2' by the consultant the field has to be completed on the database)
Moderate	INJURY TO DORSAL PANCREATIC ARTERY AT ORIGIN FROM SPLENIC ARTERY
Moderate	SHORT PORTAL VEIN <1CM/ MESENTERY STAPLED VERY CLOSE INCORPORATING DONOR DUODENUM HAEMATOMA IN HEAD
Moderate	LACERATION IN TAIL
Moderate	TORN JUNCTION OF Y GRAFT
Severe	CAPSULAR TAR APPROX 2CM X 2CM. LARGE LYMPH NODES X5. NO TIE ON BILE DUCT.
Severe	TEAR TO TAIL OF PANCREAS DAMAGED DUODENUM
Severe	INJURY TO PARENCHYMA CLOSE TO TAIL
Severe	SPLENIC ARTERY DISSECTED.
Severe	AREA OF PANCREAS EXPOSED AROUND SPLENIC ARTERY
Severe	DONOR DUODENUM STUMP HAD A HOLE IN THE STAPLER LINE SO CONTENT CONTAMINATED THE ORGAN
Severe	8X3CM SUBCAPSULAR HAEMATOMA
Severe	DUODENAL PERFORATION O2
Severe	DAMAGE TO SPLENIC AND PORTAL VEIN UNABLE TO RECONSTRUCT
Severe	DAMAGE TO ARTERIAL SUPPLY AND CAPSULE
Severe	CAPSULE STRIPPED COMPLETELY PANCREAS NOT PERFUSED. IPDA DAMAGED AND TOO SMALL TO RECONSTRUCT.
Severe	VERY SHORT SMA - COMPROMISED IPDA VERY SHORT SA AND EXPOSED NEAR OF THE PANCREAS
Severe	CAPSULAR INJURY TO PORTAL VEIN
Severe	CUT PANCREATIC MAJOR & MINOR ARTERIES WITHOUT RECONSTRUCTION OPTIONS. SMALL HAEMATOMA AT TAIL OF PANCREAS
Severe	DUODENIUM NOT FLUSHED. DAMAGE TO PANCHAREA - SPLENIC VEIN THROMBUS.
Severe	MAJOR DEEP LACERATION TO BODY OF PANCREAS INCLUDING FULL TRANSECTION OF SPLENIC VEIN (PHOTOS TAKEN)
Severe	DEFECT IN PYLORIC STAPLE LINE - SO BARREL OPEN
Severe	DUODENAL STUMP STAPLED ACROSS PLYORUS - STAPLE LINE OPENED WITH GROSS CONTAMINATION WITH DUODENAL CONTENT
Severe	DUODENAL STAPLE LINE NOT CLOSED - CONTAMINATION OF GRAFT.
Severe	CAPSULAR DISRUPTION APPROXIMATELY 7.2CM X 3CM AT PERI-PORTAL PART OF PANCREAS EXTEND DOWN TO SPLENIC ARTERY AREA
Severe	1) Capsule stripped from entire posterior aspect of tail 1cm x 3cm 2) Incised injury to neck.
Severe	Several tears at the posterior wall of the duodenum