

REPORT

FROM

THE ORGAN UTILISATION AND DAMAGE WORKING GROUP

1. EXECUTIVE SUMMARY

- There remains a significantly high discard rate of pancreases for solid organ transplantation in the U.K.
- Within a period of 6 months (June '16-Dec'16), 51 out of 53 discarded organs (96%) were declined after being initially accepted for transplantation by the centre at the top of the matching run.
- Main reason for discards are fatty appearance and organ damage (including capsular injury and vascular injury).
- 19 out of 53 discarded pancreases (35.84%) were subsequently deemed usable by additional assessment
- A video evaluation of the pancreas can provide sufficient information to support organ acceptance.
- A proposal to evaluate the use of video assessment at the time of retrieval should be submitted to NHSBT
- PAG should explore the option of preferential allocation of marginal grafts to centres with higher risk acceptance behaviour

2. BACKGROUND

Assessment of pancreases for solid organ transplantation is highly subjective and as a result a significant number of grafts are discarded. There is an absence of clear assessment criteria that was evidenced by significant variation in the reasons for decline between centres from the NHSBT database.

The Pancreas Utilisation Working Group was setup with the main remit of assessing pancreas discards in the U.K. and develop criteria for acceptance and evaluate the risk taking behaviour of transplant surgeons and centres.

3. METHODS

As part of this project all pancreases discarded from solid organ transplantation in the U.K. over a 6 months period underwent evaluation in two centres (Edinburgh and Oxford). Assessment was undertaken by a consultant surgeon independent of the previous discard decision and involved a video recording before and after preparation of the graft for implantation. Evaluation included assessment of fat infiltration, organ damage, vascular and duodenal integrity, placement of mesenteric staple line and the integrity of the iliac graft. The donor data and reasons for the initial decline were captured from the national transplant database and the concordance between the initial assessment and second evaluation was assessed.

In addition a short pilot video was created and sent for evaluation to surgeons in five centres in order to define a standardised video approach that could be rolled out for wider evaluation by all centres.

#### 4. FINDINGS

53 organs were evaluated. There were 37 DBD pancreases (69.81%) and 16 DCD donors (30.18%). The median donor age was 44 years old (range 9 – 62) with a median BMI of 23.9 (range 19-35.3).

51 of the 53 organs (96%) were declined after being initially accepted for transplantation by the centre at the top of the matching run whilst the remaining 2 were discarded at the point of procurement. 26 organs (49%) were declined due to fatty appearance and 19 (35.84%) due to various degrees of damage including 9 major capsular or vascular injuries.

Of the 53 discarded pancreases, 19 organs (35.84%) were subsequently deemed suitable by the additional assessment in Edinburgh or Oxford. A significant variation in relation to acceptable size of the capsular tears and the degree of steatosis was noted.

#### Video assessment

As a second step for this project we piloted a video assessment as a tool to assist organ utilisation decision. Four discarded pancreases underwent a high definition video recording prior to and after bench preparation with the focus on the anatomical element as described above. The videos were sent to 5 consultant surgeons in different transplant centres and they completed an assessment proforma and provided feedback on the quality of recording, the information presented and whether the video assisted the decision to use the organ. This pilot showed that the video provided sufficient information for the surgeons to reach a decision to use the graft. However the additional video after bench preparation was not seen to provide any supplementary information to change the decision. All surgeons correctly identified major injuries and agreed with a discard decision. There was however a discrepancy in the interpretation of capsular injuries reflecting the risk taking attitude of those involved in this pilot. Although the videos were found to be useful, all surgeons suggested that a commentary on the consistency of the graft and a guided video reflecting main problem (fat infiltration or damage) would be more beneficial rather than a completely blinded assessment.

#### 5. SUMMARY OF THE FINDINGS

From this initial work we have identified that a significant number of organs are discarded unnecessarily. These could potentially be transplanted by different centres. The discard decision takes place after initial assessment in the centre at the top of the matching run and therefore adds a significant number of hours of cold ischaemia time, reducing the chance of further utilisation of the grafts either for solid organ or islet transplantation.

Capsular tears and fatty infiltration are the main reasons for centre variation and require further evaluation.

A video assessment at the time of retrieval appears to be a useful tool but requires further evaluation in a prospective way.

## 6. FURTHER WORK

A complete video assessment of the 53 discarded pancreases is in preparation. Taking into account the suggestions from the pilot video evaluation, these will be circulated to every single pancreas transplant surgeon in the country. This will enable us to assess the variability in acceptance criteria between centres and individual surgeons and better inform potential utilisation of the grafts.

## 7. INTERIM RECOMMENDATIONS

- a. Based on the work-up to date there is a clear need for better assessment of the graft at the time of retrieval. In conjunction with the "always explant" policy to enable better evaluation of the pancreas at retrieval, we would recommend that a video assessment undertaken on the bench at the retrieval centre should be piloted by NHSBT. This approach will reduce unnecessary travel and allow an early decision to be made. This would enable a potential redistribution of organs towards centres with a more aggressive risk taking approach towards solid organ pancreas transplantation or indeed increase utilisation of organs for islet transplantation.
- b. Based on the risk taking approach of different centres, PAG should consider ways to re-allocate the organs to centres with a more liberal approach. This would inform whether the utilisation of the marginal grafts leads to successful transplantation and would provide the end point required for this evaluation to ensure that these organs can be safely used.