

The case for a National Histopathology Service for organ retrieval and transplantation.

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On behalf of NHA Team & audit
champions

Introduction

- Unexpected lesions that require further characterisation may be identified during organ retrieval or at examination of the organ in the transplant centre.
- Further assessment of donor organ quality may also be required.
- Histopathological analysis may therefore become necessary at time of retrieval or before safe transplantation may proceed.
- No formal process in the UK for obtaining 'out-of-hours' histopathological report of retrieved organs

Introduction

- Histopathological report may become necessary when:
 - a) A lesion suspicious for malignancy is identified – Type I
 - b) Further assessment of organ quality is required – Type II
- It is unknown whether urgent histopathological analysis enables the utilisation of donor organs that would otherwise have been discarded.

The National Histopathology Audit

- Define current incidence of 'urgent**' histopathological analysis requests.
 - Define numbers of retrieved organs utilised following histology.
 - Identify impact of an out-of-hours histopathology service on:
 - Donor/organ utilisation
 - Recipient safety
- ⇒ Urgent biopsies were defined as those biopsies where the report was awaited in order to proceed either for retrieval or for transplantation.

Methods

- Prospective data collection
- 1st October 2013 and 31st March 2014 (6mo)
- All NORS team retrievals
- All Transplant Centres.

Results

- 100% Data Return
- 654 Retrievals
- 2322 Organs Retrieved
 - Utilised: 2064 (88%)
 - Taken, Accepted and Not Utilised: 258 (12%)

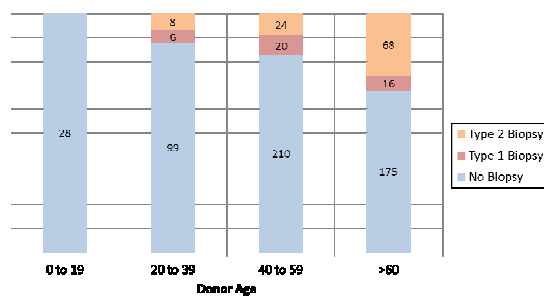
Results - Incidence

- 142 urgent biopsies in 654 retrievals (21.7%)
 - 42 Type 1 Biopsies (29.6%)
 - 100 Type 2 Biopsies (70.4%)
- 51% out-of-hours (1900 to 0700 and weekends)

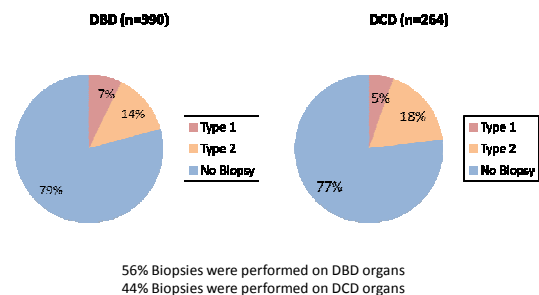
Results - Incidence

- 95% biopsies sent to pathology services at NORS centres
- The organs biopsied at Transplant Centres were mostly Livers and Kidneys
- There was only one biopsy taken at CT Transplant Centre
- No biopsies from Pancreases

Results – biopsy incidence by age



Results – biopsy incidence by donor type



Results – Type 1 Biopsy

- 42/654 Biopsies for suspected malignancy (6.4%)
- 3/654 Malignancies identified (0.45%)
- 3/42 Biopsies confirmed malignancy (7%)
- There were **119 organs** safely transplanted thanks to negative Bx report

Results – Type 2 Biopsy

- 100 Type 2 Biopsies
 - 22 liver
 - 78 kidney
- Unsuitable organ quality in 5% (4 kidneys;1 liver)
- **21 Livers** and **74 Kidneys** utilised following Type 2 Biopsy

Results – Organ specific (kidney)

- | | |
|---|--|
| <ul style="list-style-type: none"> • 40-59 Age group: <ul style="list-style-type: none"> – 28/480 Not Utilised – 452/480 Utilised <ul style="list-style-type: none"> • 32 Type 1 Biopsies • 18 Type 2 Biopsies | <ul style="list-style-type: none"> • >60 Age group: <ul style="list-style-type: none"> – 59/465 Not Utilised – 406/465 Utilised <ul style="list-style-type: none"> • 27 Type 1 Biopsies • 52 Type 2 Biopsies |
|---|--|

50 + 79 Kidney Transplants proceeded on a background of biopsy

Results – Organ specific (liver)

- | | |
|--|--|
| <ul style="list-style-type: none"> • 40-59 Age group: <ul style="list-style-type: none"> – 14/197 Not Utilised – 183/480 Utilised <ul style="list-style-type: none"> • 9 Type 1 Biopsies • 11 Type 2 Biopsies | <ul style="list-style-type: none"> • >60 Age group: <ul style="list-style-type: none"> – 30/165 Not Utilised – 135/465 Utilised <ul style="list-style-type: none"> • 10 Type 1 Biopsies • 23 Type 2 Biopsies |
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20 + 33 Liver Transplants proceeded on a background of biopsy

Discussion – key points

- First data collected on national use of histopathology service for transplantation.
- Significant use of histopathology during audit period
- Older donors trigger biopsies
- Mostly type 2 biopsies
- Potentially significant decrease in inappropriate non-utilisation of organs?



Discussion – future questions

National Retrieval Group has constituted a steering group

–How significant is the role of an accessible national pathology service in increasing organ utilisation?

- Pilot
- Further evidence
- Service evaluation/development
- Logistics

–Does such a service translate into improved graft/patient outcomes?

- Prospective study linked to the service evaluation project
- Retrospective analysis on biopsies already available

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