Liver Transplant - The Co-ordinators view

Helen Aldersley- Liver transplant co-ordinator
Content

Elective Liver transplantation:

• Setting the scene
• Indications for liver transplantation
• Liver Transplant Assessment
• The Waiting Period
• The Post operative period
• Future
### Deceased donor liver programme in the UK, 1 April 2006 - 31 March 2016

Number of donors, transplants and patients on the active transplant list at 31 March

<table>
<thead>
<tr>
<th>Year</th>
<th>Donors</th>
<th>Transplants</th>
<th>Transplant list</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006-2007</td>
<td>636</td>
<td>640</td>
<td>632</td>
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<td>2007-2008</td>
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<td>2009-2010</td>
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<tr>
<td>2010-2011</td>
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<td>2015-2016</td>
<td>1011</td>
<td>878</td>
<td>584</td>
</tr>
</tbody>
</table>

Source: Transplant activity in the UK, 2015-2016, NHS Blood and Transplant
UK Liver Transplant Centre's

- Edinburgh
- Newcastle
- Leeds
- Birmingham
- Cambridge
- Royal Free
- King's College
Organ Allocation

Super urgent waiting list - National allocation
  Blood Group Compatible
  Longest waiting time

Elective waiting list - Zonal

Each Liver Tx centre is allocated a Geographical Zone - the number of donor hospitals within that zone is dependant upon:

Size of their liver Tx centre transplant waiting list

The number of donor referrals from the zonal hospital

Re-calculated every 3 years
Referrals

- Donor referrals from the SNOD go through an offering sequence depending on the type of donor:
  - **DBD**
    - Super urgent
    - Hepatoblastoma
      - Liver/Small Bowel
        - Zonal Centre
          - Split Criteria
            - Nationally
  - **DCD**
    - Zonal Centre
      - Nationally
Indication type for adult elective liver only registrations in the UK, 1st April 2015- 31st March 2016

Cancer: 24%
HCV: 6%
ALD: 27%
HBV: 2%
PSC/PBC: 20%
AIH: 5%
Metabolic: 11%
Other: 6%
Physical assessment

Aims to assess the risk of peri-operative mortality as well as the short and long term survival. The patient must be deemed to have a predicted 5 year survival of more then 50%

- Determine whether the timing is right to consider transplantation  
  Too early or too late

- Determine prognosis with and without a LT  
  UKELD, MELD, Childs Pugh, aetiology of liver disease, malnutrition, frailty

- Identify alternative or holding treatment options  
  TIPS, medical management, TACE, RFA

- Identify potential complications and consider strategies to reduce their risk  
  Cardiovascular, surgical, nutritional support

- Predict the benefit of transplantation  
  Length and quality of life
Psychological assessment

Aims to assess and identify the support patients will require before and after transplant as well as their risk on non adherence with OPA’s, medical and drug regimens.

• All patients with alcohol or drug related disease are assessed by addiction specialist - National standard (nurse/psychologist/psychiatrist)

• Risk of relapse and support required assessed

• Alcohol and the liver workbook

• Alcohol/drugs testing performed in clinic and some centres test randomly via primary care

• Removal from the waiting list if a positive alcohol sample is obtained. Support arranged locally.
She only drank one unit of alcohol a week.
Patient and family attend a listing clinic:
- Risk V’s Benefit
- Graft suitability
- Waiting times
- Organ allocation
- Staying well
- Death/deterioration whilst waiting
Figure 2  Patients on the active liver transplant list at 31 March 2016, by centre

![Bar chart showing patients on the active liver transplant list at 31 March 2016, by centre.

**Transplant centre**

- Newcastle: 23 (Adult), 0 (Paediatric)
- Leeds: 84 (Adult), 7 (Paediatric)
- Cambridge: 59 (Adult), 0 (Paediatric)
- Royal Free: 57 (Adult), 0 (Paediatric)
- King's College: 140 (Adult), 23 (Paediatric)
- Birmingham: 115 (Adult), 19 (Paediatric)
- Edinburgh: 50 (Adult), 0 (Paediatric)

**Source:** Annual Report on Liver Transplantation 2015/16, NHS Blood and Transplant
Figure 3  Post-registration outcome for 1023 new elective liver only registrations made in the UK, 1 April 2013 - 31 March 2014

*Removals due to condition deteriorating
Waiting for elective transplant

• **Length of time on the Elective waiting list is dependent on:**
  
  Type of Graft
  Identical Blood Group
  Size of donor v’s recipient
  UKELD score/ prioritisation on waiting list

• **Optimisation is paramount through:**
  
  Management of Liver disease
  Nutrition
  Mobility/exercise
  Emotional Support for patient and carers
Cancelled Transplant

• DCD - Donor doesn’t become asystolic within 30 minutes

Other reasons

• Organ severely fatty

• Poor Perfusion

• Evidence of a cancer intra operatively

• Prolonged ischaemic time
Post transplant

- ICU afterwards for observation and early detection of HAT or PNF
- Liver Unit for approx. 10 days if straightforward
- Discharged home with weekly surgical clinic for approx. 6 weeks
- Clinics gradually reduce and transferred to a hepatology intermediate clinic at 3 months
- Support from Liver transplant coordinators and long term follow up nurses
Figure 18: Risk-adjusted 1 year patient survival rates for adult elective deceased donor first liver transplants, 1 April 2011 - 31 March 2015

Source: Annual Report on Liver Transplantation 2015/16, NHS Blood and Transplant
Figure 19  Risk-adjusted 5 year patient survival rates for adult elective deceased donor first liver transplants, 1 April 2007 - 31 March 2011

Source: Annual Report on Liver Transplantation 2015/16, NHS Blood and Transplant
The Future

• National Allocation on the elective waiting list
  - To prevent regional difference in waiting times
  - To reduce overall mortality on the waiting list
  - Plan to start 2017 with an updated IT system
  - Starting with DBD donors before introducing DCD
The Future

• **Organ Care System (OCS)**
  - Single arm prospective clinical trial of 25 patients being undertaken at Leeds
  - Preserves and assesses donor livers for transplantation
  - Aims to maintain the donor liver in a near metabolically active and functioning state during the preservation phase, defined as meeting the following criteria:
    - Circulating arterial lactate stable or trending down over time
    - AST trend is stable or trending down over time
    - Continuous bile production over the preservation phase
Advantages

1) Physiological parameters maintained
2) Stable reperfusion
3) Portable (34 KG fully loaded with organ, blood & Gas tank)
4) Transportable in a standard Van
5) Assessment of the donor organ
6) ?Utilisation of Extended criteria
7) ? Extended preservation
8) ? Organ optimisation/resuscitation
9) ? Reduced biliary complications
4 days post transplant
Thank you

Any Questions?