

NHS BLOOD AND TRANSPLANT
CARDIOTHORACIC ADVISORY GROUP

LUNG DECLINE AUDIT
SUMMARY

INTRODUCTION

1. This report presents cases of a subset of potential lung donors who donated at least one solid organ between 1 April 2013 and 30 June 2013, but whose lungs were not transplanted. The characteristics of this particular subset of potential donors, however, would generally suggest that the lungs were transplantable. The most common reason centres declined the organs is provided. This analysis also includes potential heart/lung block donors.

DATA AND METHODS

2. Data on all UK potential lung donors after brain death (DBD) and circulatory death (DCD) between 1 April 2013 and 30 June 2013 were obtained from the UK Transplant Registry.
3. A subset of potential lung donors was selected using criteria chosen to reflect a group of donors whose lungs were potentially straightforward to place. However, the key criterion was that the lungs were not transplanted. Characteristics of each donor in this subset are presented in **Table 1**.

CONCLUSIONS

- 4 Of the 5 potential DBD lung donors, all lung pairs were offered but none were accepted. In 3 cases (60%) retrieval teams were sent out. The most common reason for non-use in this subset of potential donors was poor function.
- 5 Of the 6 potential DCD lung donors, all lung pairs were offered and 2 lung pairs (33%) were accepted. In 5 cases (83%) retrieval teams were sent out. The most common reason for non-use in this subset of potential donors was poor function.
- 6 Members are asked to discuss these cases and consider whether lung usage can be improved.

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Sept 2013

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INTRODUCTION

1. This report presents cases of a subset of potential lung donors who donated at least one solid organ between 1 April 2013 and 30 June 2013, but whose lungs were not transplanted. The characteristics of this particular subset of donors, however, would generally suggest that the lungs were transplantable. The most common reason centres declined the organs is provided. This analysis also includes potential heart/lung block donors.

DATA AND METHODS

2. Data on all UK potential lung donors after brain death (DBD) and circulatory death (DCD) between 1 April 2013 and 30 June 2013 were obtained from the UK Transplant Registry. This also included potential heart/lung block donors.
3. For the purposes of this study, UK donors were identified as 'potential lung donors' using the following criteria. These criteria were chosen to reflect a group of donors whose lungs were potentially straightforward to place;
 - Blood Group O. Hence the donor's lungs could be transplanted to a patient of any blood group.
 - Height between 155cm and 175 cm
 - Between the age of 16 and 65
 - Donated at least one solid organ. This criterion removes donors who were not suitable for donating any solid organ; including these in the analysis would be misleading.
 - At least one PO₂ recording was greater than 40kPa. This would indicate that the lungs were potentially usable.
 - Consent for lung donation had been provided

However, the key criterion was that the lung or heart/lung block was not transplanted.

4. The overall reason for non-use was obtained for each donor by looking at the reasons for decline from all (non-paediatric) centres.

RESULTS

Donor characteristics

5. There were 11 UK 'potential lung donors' between April 2013 and June 2013 whose lungs or heart/lung block were not transplanted. This compares with a total of 21 DBD and 7 DCD lungs offered for this group of potential donors over this period. Of the 11 unused donors, 5 were DBD donors and 6 were DCD. The basic characteristics of the 5 DBD potential lung donors are summarised in **Table 1** and the 6 DCD potential donors are summarised in **Table 2**.
6. Bronchoscopy information was available for one donor (Donor 1 in **Table 1**). Results stated that 'moderate to severe inflammation in both lower lobes querry bleed on touch in rll minimal secretions in both ll'.
7. One DBD and one DCD donor were listed as unsuitable due to past history. **Table 3** shows the detailed notes recorded for each.

CONCLUSIONS

- 8 In a recent 3 month period, there were 11 'potential lung donors' in the UK where the lungs were not used. Of these, 5 were DBD donors and 6 were DCD donors.
- 9 Of the 5 potential DBD lung donors, all lung pairs were offered but none were accepted. In 3 cases (60%) retrieval teams were sent out. The most common reason for non-use in this subset of potential donors was poor function.
- 10 Of the 6 potential DCD lung donors, all lung pairs were offered and 2 lung pairs (33%) were accepted. In 5 cases (83%) retrieval teams were sent out. The most common reason for non-use in this subset of potential donors was poor function.
- 11 Members are asked to discuss these cases and consider whether lung usage can be improved.

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Table 1 Characteristics of 5 UK DBD potential lung and heart/lung block donors between 1 April 2013 and 30 June 2013 whose lungs or heart/lung block were not transplanted

Donor	Month	Donor height	Donor weight	Donor age	Organ	Organ accepted?	Retrieval team attended?	Attending retrieval team	Organ offered?	Maximum PO2 reading	Past smoker?	Reason for non-use
1	April	157	70.0	53	Lung Pair	no	yes	Harefield CT team	yes	58.5	No	Poor function
2	April	170	65.0	60	Lung Pair	no	yes	Newcastle CT team	yes	44.9	Yes	Poor function
3	June	165	63.5	64	Lung Pair	no	yes	Scotland MO team	yes	67.6	No	Donor unsuitable - age
4	April	169	95.0	62	Lung Pair	no	no		yes	44.0	Yes	Donor unsuitable - past history
5	June	167	70.0	61	Lung Pair	no	no		yes	70.2	No	Poor function

Table 2 Characteristics of 6 UK DCD potential lung and heart/lung block donors between 1 April 2013 and 30 June 2013 whose lungs or heart/lung block were not transplanted

Donor	Month	Donor height	Donor weight	Donor age	Organ	Organ accepted?	Retrieval team attended?	Attending retrieval team	Organ offered?	Maximum PO2 reading	Past smoker?	Reason for non-use
6	April	174	65.0	56	Lung Pair	yes	yes	Birmingham CT team	yes	73.4	No	Other
7	June	161	50.0	52	Lung Pair	yes	yes	Papworth CT team	yes	47.5	Yes	Poor function
8	April	168	66.0	32	Lung Pair	no	yes	Harefield CT team	yes	62.7	Yes	Other
9	May	175	79.0	28	Lung Pair	no	yes	Papworth CT team	yes	50.6	No	Poor function
10	June	166	70.0	48	Lung Pair	no	yes	Manchester CT team	yes	42.6	Yes	Donor unsuitable - past history
11	April	158	75.0	64	Lung Pair	no	no		yes	41.0	No	Poor function

Table 3 Detailed notes for each donor listed as unsuitable due to past history	
Donor	Notes
4	Left knee replacement 5 months ago and associated arthroscopies prior to this, Tennis elbow and right corrective surgery to this 2008, UTI's, spondolosis, HTN, NIDDM, hiatus hernia, hypothyroidism, nephrectomy 2009 for mild rotated kidney which functioned at 18% and recurrent pyelonephritis and pain with associated pyuria and significant vasomotor symptoms. hysterectomy 1985, Caesarean x 2, appendicectomy, viral meningitis 1999, blood transfusion post partem 1982, arthritis and fibromyalgia. Takes omeprazole, tramadol, co-codamol, candesartan, bendroflumethazide, atenolol, amitriptyline, tamsulosin. Father had age related IDDM. No alcohol, smoked cigaretted approx 20 years ago
10	Gave up smoking 4 years ago. 1/52 - treated for a chest infection with amoxicillin and prednisolone. Patient is asthmatic - symbocort and salbutamol. Carotid endarterectomy 2008 DHx Dipyridamole 100mg TDS Pravastatin 40mg Aspirin 75mg