Extending the boundaries: donor selection in living donor kidney transplantation

Living Kidney Donation Network Meeting
24 January 2019

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Transplant Nephrologist
What is risk?

*noun*

A situation involving exposure to danger
Short term

General anaesthesia

Any surgery
- Pain
- Nausea
- Infection
- Thrombosis
- Paraesthesia

Nephrectomy
- Vascular injury
- Bowel injury
- Splenic injury
- Thoracic injury
Medium term

- Pain
- Hernia
- Testicular discomfort
- Irritable bowel
Long term

- Hypertension
- Kidney failure
- Premature death
Suitability:

1. For general anaesthesia / surgery
2. To be left with a single kidney
3. Of kidney for transplant into recipient
Case 1

Donor
• 81 yr. sister
• “I consider I am very fit for my, admittedly advanced, age”
• PMHx: amoxicillin in 2012 for chest infection
• Creatinine 69

Recipient
• 78 yr. man
• IgA nephropathy (biopsy 34 years ago)
• Nephrectomy for RCC (10 years ago)
• eGFR 15, decline by 4 ml/min/yr.
Outcome
Case 2

**Donor**
- 65 yr. male
- Paroxysmal AF, TKR
- Propafenone, Aspirin, statin

**CT**
- L kidney 2.5 mm stone
- R kidney stones x3
  - 3mm, 2mm, 3mm

**Recipient**
- 30 yr. son
- ESRD aged 4 yr.
- 2 previous transplants
  - First from mother
- Back on HD 4 years
- Chronic schizophrenia
Outcome

Donor
• Donated L kidney Jan 13
• Ureteroscopy & laser Apr 13
• Creatinine 125 μmol/l

Recipient
• 26 yr. old female in KSS
• Creatinine 89 μmol/l
Case 3

Donor
• 36 yr. man with no PMHx
• Father T2 DM (mid-50s)
• Sister IGT, paternal relatives T2 DM
• Sedentary lifestyle
• Lost 1.5 stone before assessment
• Currently 101kg, BMI 32

❖ Fasting glucose 6.7 mmol/l
❖ HbA1c 43 mmol/l

Recipient
• 40 yr. wife
• HD for last 7 years, access issues
• Three previous transplants
• Highly sensitised

• Cross-match negative
Outcome
Case 4

Donor
• 56 yr. father 000
• 54 yr. mother 100
• 50 yr. uncle 100

Father
- atrial fibrillation on warfarin
- early Parkinson's disease

Recipient
• 24 yr. old
The lower portion of the cava is continuous with a reasonably good calibre right common iliac vein, this drains the right leg via the obturator vein and internal iliac on the right side, the external iliac is occluded.

The left iliac venous system appears essentially entirely occluded apart from the obturator and a portion of the internal iliac which drains via a large presacral collateral to the right internal iliac.
Outcome
Case 5

Donor
• 73 yr. female
• IBS – fully investigated
• Non-visible haematuria
• Height 156cm, weight 49kgs
• Creatinine 63 \( \mu \text{mol/l} \)
• EDTA GFR 53 ml/min
• Trace of blood on urinalysis

Recipient
• 74 yr. partner/friend
• IgA nephropathy
• Complete heart block
• AF
• Bronchiectasis
• eGFR 12 ml/min/1.73m\(^2\)
• Height 180cm, weight 103kg
Donor

Recipient

- 66 yr. female in KSS
Case 6

Donor
• 45 yr. father
• epilepsy

Recipient
• 23 yr. old
• Renal dysplasia
• First Tx aged 14 yr. (2009)
  • Rejection
  • Pregnancy
• Dialysis 2015

Blood group incompatible
Left kidney 2 cysts
Outcome
Conclusion

• Living donor transplantation is associated with the best chance of being alive in the medium and long-term

• Risk cannot be eliminated

• Who determines what risk is acceptable?
Laboratory alert – 12 hour post-transplant specimen

1. PLEASE NOTE: Significant changes have occurred for some results. Patient details on specimen have been checked. Suggest repeat specimen if no clinical explanation for change.

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