“Management of the Potential Cardiac Donor”

Vivek Rao, MD, PhD, FRCS(C), FAHA

Director, Cardiac Transplant and VAD
Munk Professor in Advanced Cardiac Therapeutics
Chief of Cardiac Surgery
Toronto General Hospital
University of Toronto
I am a heart transplant surgeon and it is my FAVOURITE surgical procedure.
Why not take every heart?

Must be better than the recipient’s heart

Donation after cardiac death?

Previous cardiac surgery?
The Problem

Balance the Competing Risks:

- survival on medical therapy (75%)
- survival on LVAD (85%)
- post-transplant survival (90%)

* at one year
The Problem

Balance the Competing Risks:

- survival on medical therapy (60%)
- survival on LVAD (75%)
- post-transplant survival (80%)

* at three years
At 6 months

Mortality (%)

<table>
<thead>
<tr>
<th>NYHA I</th>
<th>NYHA II</th>
<th>NYHA III</th>
<th>NYHA IV</th>
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<tbody>
<tr>
<td>0</td>
<td>2</td>
<td>7</td>
<td>40</td>
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Devroey D 2010. Internat J Clin Practice
At 1 year

Mortality (%)

NYHA I  NYHA II  NYHA III  NYHA IV
2      4       9       27
0      13      24      50

TGH      Belgium

Devroey D 2010. Internat J Clin Practice
In Comparison:

Kidney Transplant – back on dialysis

Lung/Liver Transplant – alternative is usually death

However for Heart Transplant:

- Estimated operative mortality <15%
- Predicted 5 year survival >80%
What is ‘High Risk’?

Donor Heart Criteria (TGH)

- Age less than 40
- Normal echo
- On no inotropic support (or dopamine<5ug/min)
- Normal angiogram
- Estimated ischemic time <4hrs
- Negative prospective Xmatch for PRA>10%

* circa 1990
What is ‘High Risk’?

Donor Heart Criteria (TGH)

- Age less than 70 (??)
- No structural valve abnormalities
- Normal angiogram or minimal CAD
- Estimated ischemic time <6hrs
- Negative virtual Xmatch

* 2015
What is ‘The Risk’?

Early Risk:

- Primary graft dysfunction
- Acute rejection

Late Risk:

- Cardiac Allograft Vasculopathy
- Malignancy
In 2001, utilization of organs from consented donors:

(kidney 85%, Liver 84%, Heart 35%, Lung 23%)
How do I (VR) make the final decision?

- Is this a negative crossmatch on a highly sensitized pt
- Is VAD an option for the recipient
- Is there one isolated risk factor
  - can we wean from pressor support?
  - do we have a normal angiogram?
  - have we repeated 2D echo?
  - have we given hormone therapy?
  - can we optimize ischemic time?