Do MCS Patients Require Special Donor Consideration?

Francisco A. Arabía, MD MBA
Physician Executive, Advanced Heart Programs
Professor of Surgery & Medicine
Banner Health/University of Arizona - Phoenix-Tucson
This might be RELATIVE
Or Relative in other Ways !!!

You Are a Heart Transplant Surgeon

OR

Heart Failure Cardiologist
Disclosures

• Consultant to:
  • SynCardia Systems
  • Medtronic
  • Carmat TAH
  • BiVACOR TAH
Additional Disclosures

• A Heart Transplant Surgeon who wants to think Like a Heart Failure Cardiologist ?!?!?

Did I make the wrong the decision ?

I Hope Not
When is all the SAME

• A Heart Failure Cardiologist who thinks every possible Donor is a good DONOR and every possible recipient listed is a good RECIPIENT !?

• A Transplant Surgeon who wants to demonstrate to the world his/hers Surgical Fortitude !!!!
Is the Transplant at RISK: Recipient with Prior Cardiac Surgery

- 13 recipient-related variables:
  - age > 50 years, female sex, history of cancer, pulmonary disease, valvular cardiomyopathy, or congenital, heart disease, previous cardiac surgery, hypertension, diabetes, mechanical ventilation, ascites or chronic bilateral lower limb edema, GFR, total bilirubin, AST

- Can we mitigate this RISK?

Is the Transplant at RISK: Because the type of MCS/Technique

• Not sure

• Lateral Thoracotomy Trial

• Type of Device?
  • Decreased donor age, low recipient PVR, short ischemic times, gender match, and higher BMI ratio are associated with improved graft survival.

• Was the MCS-Patient Protected?

What is MCS Protection?

Ihnen K et al. Surgical Technique to facilitate explantation of MCS: LVADs, BIVADs and TAHs before hear transplantation. ASAIO J 2016;62:211-213
It's not only the RECIPIENT, is the DONOR too

- When the high-risk and very high-risk recipients received organs from high-risk donors, their 1 year survival was 83 and 62%, respectively, and 5 year survival was 65 and 49%, respectively.

What are the Risk factors?

• Recipient Risk Factors:
  • Poor Renal Function
  • Poor Liver Function
  • Advanced age
  • Congenital Etiology
  • Amyloidosis
  • RVAD, ECMO, Exc VAD, TAH

• Donor Risk Factors
  • Insulin dependent DM
  • Advanced Donor Age
  • Prolonged Ischemic time
  • Female Gender
  • Hep C

### TRIP-MCS

<table>
<thead>
<tr>
<th>Recipient Variables</th>
<th>Points Allocated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age &gt; 60</td>
<td>7</td>
</tr>
<tr>
<td>BMI &lt; 25, 25-34</td>
<td>5</td>
</tr>
<tr>
<td>BMI ≥ 35</td>
<td>10</td>
</tr>
<tr>
<td>Total Bili &gt; 1.0</td>
<td>5</td>
</tr>
<tr>
<td>Est. GFR &lt; 50</td>
<td>10</td>
</tr>
<tr>
<td>Dialysis</td>
<td>6</td>
</tr>
<tr>
<td>Ventilator</td>
<td>10</td>
</tr>
<tr>
<td>ICU</td>
<td>3</td>
</tr>
<tr>
<td>Recently treated for Infection</td>
<td>4</td>
</tr>
<tr>
<td>LVAD</td>
<td>-</td>
</tr>
<tr>
<td>Non-LVAD</td>
<td>3</td>
</tr>
</tbody>
</table>

### Donor Variables

<table>
<thead>
<tr>
<th>Donor Variables</th>
<th>Points Allocated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age &gt; 40</td>
<td>3</td>
</tr>
<tr>
<td>Gender mismatch</td>
<td>4</td>
</tr>
<tr>
<td>Ischemic Time &gt; 4 hours</td>
<td>5</td>
</tr>
<tr>
<td>Est GFR &lt; 50</td>
<td>5</td>
</tr>
</tbody>
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Transplant vs. MCS Outcomes

Where are we now? Was this Predictable?

In Summary

• Significant amount of literature describing the importance to match donor to recipient, MCS

• What to do NEXT?
What To Do

• Transplant has the best outcome
  • Maybe match new philosophy with New Donor Allocation Policy?

• If MCS has to be utilize
  • Choose Device Appropriately

• Mitigate Recipient and Donor Risk Factors

• If MCS, protect recipient by protecting the MCS !!!