ABO Incompatible Living Kidney Donor Transplant Using Glycosorb® A/B Columns

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St. Michaels Hospital
June 13th, 2014
Objectives

• Give a brief history of the kidney transplant program at St. Michaels hospital.

• Discuss how the Glycosorb® A/B Columns allow ABO Incompatible living donor and recipient pairs the opportunity to proceed to transplant.

• Review the use of the Glycosorb® A/B Columns at St. Michaels Hospital.
History and Current Practices

• Renal transplantation remains to be the treatment of choice for ESRD (end stage renal disease)
• Only 13% of dialysis patients are eligible to receive a kidney transplant
• ABO incompatibility is one of the most common barriers to living kidney donations
• 360 on deceased donor list at SMH
• St. Michaels performs 120 – 140 kidney transplants per year
Glycosorb® ABO Incompatible Living Donor Transplantation

• Option for blood group incompatible pairs

• Exception: AB to O

• Because some donors are unable to wait, or can’t travel, LDPE (living donor pair exchange) is not an option.
Glycosorb® ABOi

• Initial discussion/Required Consents

• Organizing with other departments/timing/schedules. Both pre and post transplant.

• 8 cases to date, several in work-up; one booked for this fall
Glycosorb ® A/B Column
Glycosorb® ABO column vs. Plasmapheresis

• Conventional Plasmapheresis drawbacks:
  – Exposure to blood product
  – coagulation abnormalities
  – drug removal
  – Removal of immunoglobulins

• Glycosorb specifically targets isohemagglutinins with no requirement for substitution of plasma
Glycosorb® ABO column cont’d

• St. Michael’s Hospital is the first center in North America to use Glycosorb columns in LD kidney Tx (first treatment - July 26th, 2011)

• Long term outcomes compare to those of standard living donor transplantation
Patient Criteria

- Living kidney donor transplants
- No donor specific antibodies
- Anti-A/B titres threshold (1:256)
- All combinations of ABO-incompatibilities may be transplanted except for a two-blood group antigen mismatch (i.e. donor AB and recipient O)
Post Transplant

• Titres are collected as per St. Michaels protocol

• If titres 1:8 or less, no action necessary

• Follow up in transplant clinic once discharged
# Results

<table>
<thead>
<tr>
<th>Date of transplant</th>
<th>Donor/recipient blood groups</th>
<th>Initial Anti A or B titre (Post-op titre)</th>
<th>Donor specific antibodies</th>
<th>Number of pre-tx IA sessions</th>
<th>Number of post tx IA sessions</th>
<th>Serum Creatinine (umol/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 11, 2011</td>
<td>AB/A</td>
<td>1:4 (1:1)</td>
<td>No</td>
<td>2</td>
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<td>163</td>
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<tr>
<td>February 14, 2012</td>
<td>A/O</td>
<td>1:32 (1:2)</td>
<td>No</td>
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<td>1</td>
<td>114</td>
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<td>April 24, 2012</td>
<td>B/O</td>
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<td>5</td>
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<td>105</td>
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<tr>
<td>Date of transplant</td>
<td>Donor/recipient blood groups</td>
<td>Initial Anti A or B titre (Post-op titres)</td>
<td>Donor specific antibodies</td>
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<tr>
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</tr>
<tr>
<td>Feb 14/13</td>
<td>AB/B</td>
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<td>117</td>
</tr>
<tr>
<td>May 29/13</td>
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<tr>
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<td>1</td>
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<td>102</td>
</tr>
</tbody>
</table>
Questions?