Disparities in Kidney Transplantation

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Health related disparities

Health disparities
For every white person affected by this condition

Stroke
White
African American
American Indian/Alaskan Native

Cervical cancer
White
Hispanic
Hispanic

Prostate cancer
White
African American

Adult-onset diabetes
White
African American
Hispanic
American Indian/Alaskan Native

Infant mortality
White
African American
Puerto Rican
American Indian/Alaskan Native

HIV/AIDS (new infections)
White
African American
Hispanic

Prevalence of kidney disease

**Higher prevalence of ESRD in:**
- Aboriginal
- South Asian
- East Asian
- African
- Lower SES

ESRD in Aboriginals in Canada, CIHI 2013; USRDS 2012 ADR
Getting a transplant is a lot of work
Disparities in transplantation have been extensively described...
U.S. racial disparities

Purnell, et al. AJT 2013
Canadian racial disparities

Figure 4: Treatment Therapies for ESRD Patients (Prevalent Cases), Adults Age 20 and Older, 2011

ESRD in Aboriginals in Canada, CIHI 2013
Canadian racial disparities

East Asians are 29% less likely to undergo KTX
Indo-Asians are 31% less likely to undergo KTX

<table>
<thead>
<tr>
<th>Race</th>
<th>Any transplant</th>
<th>Deceased donor transplant only</th>
<th>Living donor transplant only</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Age-adjusted HR (95% CI)</td>
<td>Adjusted^a HR (95% CI)</td>
<td>Age-adjusted HR (95% CI)</td>
</tr>
<tr>
<td>East Asian</td>
<td>0.88 (0.79, 0.97)</td>
<td>0.71 (0.63, 0.79)</td>
<td>335 (27)</td>
</tr>
<tr>
<td>Indo Asian</td>
<td>0.69 (0.60, 0.80)</td>
<td>0.69 (0.60, 0.80)</td>
<td>163 (22)</td>
</tr>
<tr>
<td>White</td>
<td>1.00 (1.00, 1.00)</td>
<td>1.00 (1.00, 1.00)</td>
<td>9576 (18)</td>
</tr>
</tbody>
</table>
East Asians are 73% less likely to undergo LDKT
Indo-Asians are 58% less likely to undergo LDKT

East Asians are 29% less likely to undergo KTX
Indo-Asians are 31% less likely to undergo KTX

### Table 2: Transplantation by race

<table>
<thead>
<tr>
<th>Race</th>
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<th>Deceased donor transplant only</th>
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<tr>
<td></td>
<td>Age-adjusted HR (95% CI)</td>
<td>Adjusted^a HR (95% CI)</td>
<td>Age-adjusted HR (95% CI)</td>
</tr>
<tr>
<td></td>
<td>N (%)</td>
<td>(95% CI)</td>
<td>(95% CI)</td>
</tr>
<tr>
<td>East Asian</td>
<td>380 (31)</td>
<td>0.88 (0.79, 0.97)</td>
<td>0.71 (0.63, 0.79)</td>
</tr>
<tr>
<td>Indo Asian</td>
<td>203 (28)</td>
<td>0.69 (0.60, 0.80)</td>
<td>0.69 (0.60, 0.80)</td>
</tr>
<tr>
<td>White</td>
<td>4841 (25)</td>
<td>1.0</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Tonelli et al. KI 2007
Income-related disparities

Axelrod, et al. CJASN 2012
Race and income are additive

Gill J et al. WTC 2014
We haven’t moved past these observations
Theory #1
Lack of motivation to pursue transplantation

• Patients and physicians may not appreciate the benefits of transplantation in certain populations

• 69% of surveyed nephrologists believed transplantation will improve survival in AA compared to 81% in Caucasians

Ayanian et al. AJKD 2004
Similar survival after transplant in all races

Table B3: Adjusted Graft Survival Rate (Percentage) for Adult Transplant Patients (Incident Cases) Age 20 and Older, Canada

<table>
<thead>
<tr>
<th></th>
<th>One Year</th>
<th>Two Years</th>
<th>Three Years</th>
<th>Four Years</th>
<th>Five Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aboriginal</td>
<td>94.2</td>
<td>91.8</td>
<td>89.2</td>
<td>86.6</td>
<td>83.8</td>
</tr>
<tr>
<td>Non-Aboriginal</td>
<td>94.6</td>
<td>92.3</td>
<td>89.8</td>
<td>87.3</td>
<td>84.4</td>
</tr>
</tbody>
</table>
Theory # 2
Lack of living donors

Source: BCT, 2003-2012
Why is LDKT less common?

- Most patients find their donors from within their race/socioeconomic status
- Fewer willing to consider living donation (cultural, religious)
- Fewer medically suitable donors
- Fewer people that can afford to donate

Gill JS et al. AJT 2012
Living donation rates lower in poor populations

Gill J et al. JASN 2014
Finances are a barrier for Related Donors

Gill J et al. JASN 2014
May be more open to ‘alternative’ options
Theory # 3
There are not enough deceased donors

The “Blood type B” problem
Total BC Population

- East Asian: 15%
- South Asian: 7%
- Other: 3%

Kidney Disease

- East Asian: 6%
- South Asian: 1%
- Other: 4%
Reasons for this unexplained

- Cultural or religious objections to donation
- Fewer “eligible deceased donors”
- Mistrust/lack of understanding on the process surrounding deceased donation
How do we move forward?
A Survey Study on LDKT and Transplant Tourism

- potential for living donation within their social network
- level of knowledge about benefits of LDKT
- views on asking and receiving offers of living donation
- views on transplant tourism
Quantifying deceased donation in ethnic minority populations

• Systematic analyses of the stages in deceased organ donation in Aboriginal, South Asian, and Chinese Canadian in B.C.

• Data from BCT and Statistics Canada
In the meantime..

- Enhanced education on merits of transplantation (be self aware)
- Early support for living donor outreach
- Linguistically and culturally appropriate tools
- Remove financial disincentives for living donors
- Engage members of various communities (role models)