Comparing Death Risk of Polycystic Kidney Disease (PKD) Hemodialysis (HD) Patients to non-PKD HD Patients

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Background

- Mortality among polycystic kidney disease (PKD) patients with ESRD is thought to be lower than that of non-PKD ESRD patients
- However, the source of the survival advantage is not known
- We hypothesized that PKD patients have better nutritional status or lower disease burden, leading to their survival advantages compared to other ESRD patients

Methods

- To test the hypothesis that superior survival of PKD HD pts arises from lower disease burden, we examined 3-yr (7/2001-6/2004) survival of 61,022 hemodialysis (HD) patients in all DaVita® dialysis clinics & compared 1,596 PKD to non-PKD patients
- We used baseline & time-dependent Cox models, adjusted for case-mix & malnutrition-inflammation-cachexia syndrome (MICS)
- We also “matched” PKD to non-PKD by sex, age (+/-5 yrs), diabetes (DM), vintage & state
- The table shows 3-yr death hazard ratios [in bold] (and 95% confidence levels)

<table>
<thead>
<tr>
<th>Comparing to</th>
<th>Cox</th>
<th>Unadjusted</th>
<th>Case-mix</th>
<th>MICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>All pts</td>
<td>Baseline</td>
<td>0.62</td>
<td>(0.56-0.68)</td>
<td>0.77</td>
</tr>
<tr>
<td>All pts</td>
<td>Time dependent</td>
<td>0.61</td>
<td>(0.56-0.68)</td>
<td>0.74</td>
</tr>
<tr>
<td>All pts (matched)</td>
<td>Baseline</td>
<td>0.71</td>
<td>(0.62-0.74)</td>
<td>0.72</td>
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<tr>
<td>All pts (matched)</td>
<td>Time dependent</td>
<td>0.71</td>
<td>(0.62-0.74)</td>
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</tr>
<tr>
<td>Non-DM pts (matched)</td>
<td>Baseline</td>
<td>0.83</td>
<td>(0.72-0.95)</td>
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<td>0.83</td>
</tr>
</tbody>
</table>

Results

- Case-mix models showed 23% to 29% lower mortality in PKD patients compared to other HD patients, and 17% to 18% compared to non-DM non-PKD pts
- Control for MICS mitigated the survival benefit, indicating that a main contributor to better survival of PKD pts is a more favorable nutritional or inflammatory status of these patients

Conclusions

- Hence, PKD HD patients have significantly greater survival compared to other ESRD patients
- Control for MICS mitigated the survival benefit, indicating that a main contributor to greater survival of PKD patients is a more favorable nutritional status of these patients
- These findings may indicate that better nutritional status may be a key element to greater survival in ESRD

Acknowledgements

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