Fraser Health Nocturnal In-Centre Hemodialysis Program

*Speaker: Dr. Robin Cho*
Fraser Health Nocturnal HD

SMH June 2013

RCH Sept 2014

ARHCC Sept 2015
Dialysis Prescription

• 7 hours per run, 3 times a week
• Qb: 250 mL/min
• Qd: 300 mL/min
• Dialysate parameters
  – Temp: 37°C
  – Na: 137 mmol/L
  – HCO3: 35 mmol/L
  – Ca: 1.5 mmol/L
  – K: Individualized, then K algorithm
• Heparin: Individualized
## Patient Numbers

<table>
<thead>
<tr>
<th></th>
<th>SMH</th>
<th>RCH</th>
<th>ARH</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td># of pts currently*  on NHD</td>
<td>26</td>
<td>7</td>
<td>10</td>
<td>43</td>
</tr>
<tr>
<td># of pts who have ever been on NHD</td>
<td>53</td>
<td>36</td>
<td>12</td>
<td>101</td>
</tr>
</tbody>
</table>

* As of February 5, 2016
Active NHD Patients

Duration on NHD (n=43)

* As of February 5, 2016
Evaluation

Quantitative
Clinical Parameters

Qualitative
Patient Experience
# Quantitative Analysis

<table>
<thead>
<tr>
<th>Domain</th>
<th>Variables</th>
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</thead>
<tbody>
<tr>
<td>Electrolyte balance</td>
<td>K</td>
</tr>
<tr>
<td>Dialysis adequacy</td>
<td>URR</td>
</tr>
</tbody>
</table>
| Fluid & blood pressure      | GW
Pre-dialysis SBP/DBP
Post-dialysis SBP/DBP
# of different BP medications |
| Anemia                      | Hb
Ferritin
Tsat
ESA usage                     |
| BMD                         | PO4
PTH
Phosphate binder usage
Vitamin D analogue usage     |
<table>
<thead>
<tr>
<th></th>
<th>3 months</th>
<th>6 months</th>
<th>12 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>K</td>
<td>↑</td>
<td>↔ (trend ↑)</td>
<td>↔ (trend ↑)</td>
</tr>
<tr>
<td>URR</td>
<td>↑</td>
<td>↑</td>
<td>↑</td>
</tr>
<tr>
<td>GW</td>
<td>↓</td>
<td>↔ (trend ↓)</td>
<td>↔ (trend ↓)</td>
</tr>
<tr>
<td>Pre-dialysis SBP/DBP</td>
<td>↔</td>
<td>↔</td>
<td>↔</td>
</tr>
<tr>
<td>Post-dialysis SBP/DBP</td>
<td>↔ (trend ↓)</td>
<td>↔ (trend ↓)</td>
<td>↔ (trend ↓)</td>
</tr>
<tr>
<td># of BP meds</td>
<td>↔</td>
<td>↔</td>
<td>↔</td>
</tr>
<tr>
<td>Hb</td>
<td>↑</td>
<td>↑</td>
<td>↔ (trend ↑)</td>
</tr>
<tr>
<td># of pts within target Hb</td>
<td>↑</td>
<td>↔</td>
<td>↑</td>
</tr>
<tr>
<td>Darbepoetin dose</td>
<td>↔</td>
<td>↓</td>
<td>↔ (trend ↓)</td>
</tr>
<tr>
<td>Epoetin dose</td>
<td>↔</td>
<td>↔</td>
<td>↔</td>
</tr>
<tr>
<td>Phosphate</td>
<td>↓</td>
<td>↔ (trend ↓)</td>
<td>↔</td>
</tr>
<tr>
<td>iPTH</td>
<td>↓</td>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td>Phosphate binder pill burden</td>
<td>↓</td>
<td>↓</td>
<td>↓</td>
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</tbody>
</table>
Patient Experience Interviews
Methods

- Semi-structured interview guide
- Inclusion: Patients on NHD for ≥ 3 months
- Intention to interview up to 20 pts
- Interviews conducted February-May 2016
Patients

- Eligible (n=27)
- Provided consent (n=15)
- Interviewed (n=12)
## Patients

<table>
<thead>
<tr>
<th>Total Number</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>9</td>
</tr>
<tr>
<td>Female</td>
<td>3</td>
</tr>
<tr>
<td>Age (years)</td>
<td>29-81</td>
</tr>
<tr>
<td>Dialysis Vintage (years)</td>
<td>1-16</td>
</tr>
</tbody>
</table>
Discussion Themes

• Life with dialysis
• Nocturnal HD experience
• Quality of life
• Perception of health
• Communication
• Patients’ suggestions for improvement
• Anything else the patient wanted to bring up
Life with Dialysis

• Positive overall
  – Felt better than before starting dialysis
  – Weight, kidney function, lab values, energy & endurance

• 2 pts had not perceived changes in overall health

• 2 pts report weakness/dizziness since starting dialysis
Nocturnal HD Experience

• 10 out of 12 pts expressed overall satisfaction

• Many describe NHD as “the best dialysis experience” they have had so far

• 2 pts report NHD has not been a positive experience
  – Perceived lack of medical attention
  – Lack of perceived benefits
  – Times & schedules
Quality of Life

• Lives impacted positively
• “Having the whole day to do things”
• Able to do physically demanding tasks
• Able to eat freely again
• Feeling “normal”
• Feeling “younger”
Quality of Life

• 2 pts reported no change in QoL

• Negative impacts:
  – Not able to sleep comfortably in hospital
  – Feeling tired the day after NHD
  – Feeling alone in the hospital
Perception of Health

• Positive for most participants

• General sense of health improvement & well being
  – ↓ cramps
  – Improved BP control
  – ↓ medication
  – ↑ kidney function
  – ↑ strength/endurance

• Other patients report no change in health

• 2 pts report feeling worse vs daytime HD
Communication

• 11 pts felt it was important to be in contact with dialysis team members

• Not possible to talk to MD, Rxist, or RD during NHD

• In-person communication with RNs was main avenue of interaction

• Patients report not receiving conflicting information about NHD
Participants’ Suggestions

• Have doctors at night
• Extend the program
• Extend treatment hours/allow patients to stay longer in beds
• Give patients a day off to be with family
• Have private rooms
• Implement stricter requirements to be admitted in nocturnal program
• Improve/coordinate with HandiDART service schedules
• Have more nurses
Summary & Conclusions

• Successful NHD program launch

• Quantitative evaluation suggests NHD equivalent or better in studied parameters

• Perceived positively by patients

• Patients favour NHD vs daytime HD
Summary & Conclusions

• Absence of physicians at night seems to be one of the main downfalls for patients

• Spending nights at the hospital is challenging and can be difficult for patients, particularly in their early stages
Acknowledgements

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