No Place Like eHOME

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ENABLE
HOME OPTIMIZATION, MANAGEMENT AND EDUCATION
Objectives

- Principle of shared decision-making
- Evolution of eHOME
- eHOME team structure and process
- Strategies
  - Femoral catheters
  - eGraft
  - Bedside PD catheter
- Dialysis Start Unit
- Current state
- Lessons learned
Patient Centered Care

- 1988 Picker Institute coined term “patient-centered care” – shift focus away from diseases and back to patient and family

- Care that is respectful of patient preferences and values – ensures that values guide all clinical actions

- *Shared decision making* - the pinnacle of patient centered care

Barry and Edgman-Levitan, 2012
Shared Decision Making in ESRD

- Involves clinician and patient
  - Patients are encouraged/supported to consider options (benefits/harms) in order to achieve informed preferences (Elwyn, Frosch, et al., 2012; Elwyn, Dehlendorf et al., 2014)

**GOAL:** To arrive at a quality decision that is informed by a broad range of evidence and patient values (Murray, Bissonnette, Kryrowuchko, Gifford, and Calverley, 2013)
Shared Decision Making Model

Initial Preferences → Choice Talk → Option Talk → Informed Preferences

Decision Support (Aids)

Elwyn, Frosch, et al., 2012
Shared Decision Making

- 2 major challenges for professional wishing to implement SDM approach:

1. Acquisition of a range of interpersonal skills, underpinned by a positive attitude towards the concept

2. Knowledge about the existence of the legitimate choices and access to technical information about the associated harms/benefits of options

Elwyn, Edwards, Kinnersley, and Grol, 2000
Reaching a “Cool” State: Patient V

- 54 male, CKD stage IV (HTN) general nephrology clinic, admitted Aug 2015 (AKI)
- PMHx: HTN and previous 30 p.y. smoking
- Very overwhelmed – emotional intensity of high stakes medical situations may lead to cognitive overload (Rosenbaum, 2015)
- Achieve cool/calm state: (1) skilled clinicians – attending to patients’ emotions and lived experience; (2) decision aids/tools – slow down decision process
Evolution of eHOME

Unintentionally working in silos towards a common goal
Consequences of IJ CVC

- CVC
- CV stenosis
- No fistula
Urgent Start Dialysis Patients

Little or no planning

20-40%

Acute: Previously Unknown ER

Acute on known chronic

HD

(VASPRO, 2015)

(Hughes et al., 2013; Watson, 2008)
Initiatives

- New start hemodialysis unit
- Innovation room
- Bedside PD catheter insertions
- Dedicated nephrologist for vascular access
- eGraft to avoid the use of CVC
- Femoral catheters to save the arm veins
Patients Starting HD with CVC from CKD Clinic

- 2008: 68%
- 2011: 43%
- 2013: 22%
- 2014: 21%
- 2015: 21%
eHome Team

Patient
Structure

- Multidisciplinary weekly rounds
- Collaboration
- 45 minute meeting facilitated by nurse navigator
- Patient discussions
Process

Scope

- New start dialysis patients (incident), current HD patients (prevalent), unknown CKD patients

Steps

- Clinician identifies a patient who needs urgent dialysis.
  - Non-tunneled femoral catheter inserted by fellow
  - Tunneled femoral catheter inserted by IR
  - PD catheter (Surgical, bedside)

Goals

- Educate all patients about modality options, including access, with focus on home options
- Focus on decreasing the use of internal jugular CVC
- Ensure health equality
Algorithm for Urgent Start Non-reversible Renal Failure Patients

Patient identified in AM Report as needing dialysis

Nurse navigator assesses if patient is a candidate for home dialysis & provides dialysis education

Pt goes for PD & HHD tour

In-Centre HD

VAC arranges fistula/graft/femoral line

Palliative

Undecided

Decided
Algorithm for Urgent Start Non-reversible Renal Failure Patients

Undecided
- Dialysis Start Unit
  - PD or VA coordinator referral
    - PD Unit
    - HHD Unit
  - In-Centre HD

Decided
- PD or VA coordinator referral
  - HHD Unit
  - PD Unit
Strategy to Avoid Internal Jugular CVC

- These patients could be:
  - a PD candidate
  - OR
  - a HD candidate with an alternate access (i.e., non-catheter)

- Emphasizes that indeed, catheter IS temporary

- Preserves thoracic veins for later AVF/ AVG
Using tunneled femoral vein catheters for “urgent start” dialysis patients: a preliminary report

Jay Hingwala¹, Cynthia Bhola¹, Charmaine E. Lok¹,²

TABLE II - PATIENT EXPERIENCE SURVEY RESPONSES

<table>
<thead>
<tr>
<th>Survey question</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am satisfied with my vascular access</td>
<td>6</td>
</tr>
<tr>
<td>During the past 4 weeks I was bothered by pain associated with my vascular access</td>
<td>5</td>
</tr>
<tr>
<td>During the past 4 weeks I was bothered by bleeding associated with my vascular access</td>
<td>2</td>
</tr>
<tr>
<td>During the past 4 weeks I was bothered by swelling associated with my vascular access</td>
<td>2</td>
</tr>
<tr>
<td>During the past 4 weeks I was bothered by bruising associated with my vascular access</td>
<td>2</td>
</tr>
<tr>
<td>During the past 4 weeks my access interfered with my daily activities (e.g. work, social, leisure activities or other regular activities)</td>
<td>5</td>
</tr>
<tr>
<td>During the past 4 weeks I was bothered by the appearance of my vascular access</td>
<td>5</td>
</tr>
<tr>
<td>During the past 4 weeks my access interfered with my sleep</td>
<td>3</td>
</tr>
<tr>
<td>During the past 4 weeks my access caused me problems when bathing or showering</td>
<td>6</td>
</tr>
<tr>
<td>During the past 4 weeks my vascular access had problems (i.e. didn’t work properly)</td>
<td>2</td>
</tr>
<tr>
<td>During the past 4 weeks my vascular access was difficult to care for (i.e. dressings, keeping clean and protected)</td>
<td>5</td>
</tr>
<tr>
<td>During the past 4 weeks I was worried about being hospitalized because of problems with my access</td>
<td>4</td>
</tr>
<tr>
<td>During the past 4 weeks I was worried about how long my vascular access will last</td>
<td>5</td>
</tr>
</tbody>
</table>

1 – strongly disagree; 4 – no opinion; 7 – strongly agree.
RCT Evidence: Cathedia Study

Femoral vs Jugular Venous Catheterization and Risk of Nosocomial Events in Adults Requiring Acute Renal Replacement Therapy
A Randomized Controlled Trial
Parienti et al., 2008, JAMA, 299(20)

No significant difference in catheter dysfunction and URR: 50.8% (fem) vs 52.8% (jugular)

Catheter dysfunction and dialysis performance according to vascular access among 736 critically ill adults requiring renal replacement therapy: A randomized controlled study
Jean-Jacques Parienti, MD, PhD; Bruno Mégarbane, MD, PhD; Marc-Olivier Fischer, MD; Alexandre Lautrette, MD, PhD; Nicole Gazui, MD; Nathalie Marin, PharmD; Jean-Luc Hanouz, MD, PhD; Michel Ramakers, MD; Cédric Daubin, MD; Jean-Paul Mira, MD, PhD; Pierre Charbonneau, MD; Damien du Cheyron, MD, PhD; for Members of the Cathedia Study Group
Crit Care Med, 2010, 38(4)

- ▲ mechanical complications in IJ vs femoral CVC: e.g., hematoma 3.6% (IJ) vs 1.1% (fem)
- No difference in rate of bacteremia: 2.3/1000 days (IJ) vs 1.5/1000 (fem)
Meta-Analysis and Systematic Review

The risk of catheter-related bloodstream infection with femoral venous catheters as compared to subclavian and internal jugular venous catheters: A systematic review of the literature and meta-analysis*

Paul E. Marik, MD, FCCM; Mark Flemmer, MD; Wendy Harrison, PhD

Crit Care Med, 2010, 40(8)

- No significant difference between fem and IJ in cath colonization, CRBSI, and thrombotic complications
- Fewer mechanical complications in fem venous access

No significant difference in rate of CRBSI and DVT between femoral and subclavian/IJ sites

Central venous access sites for the prevention of venous thrombosis, stenosis and infection

Xiaoli Ge¹, Rodrigo Cavallazzi², Chunbo Li¹, Shu Ming Pan¹, Ying Wei Wang², Fei-Long Wang¹

Cochrane Syst Rev, 2012, 40(8)
Urgent Start Outcomes

Transition from femoral catheter
- 40 inserted, 3 failed
  - 1 removed for infection
  - 2 thrombosed
- Patients avoided IJ CVC insertion by having eGraft placed
PD Catheter Insertions
January 2013 to December 2015

68% (n=101) laparoscopic
32% (n=49) bedside

60% urgent unknown
40% urgent known
Bedside PD – Results

Primary failure rate: 28% (bedside) vs 4% (laparoscopic)
Dialysis Start Unit (DSU)

- New start dialysis unit
- Isolated
- 2 HD & 2 PD stations
- 72 patients to date
- Staffed by PD unit nurses and 1 HHD nurse
- Nurses well informed and experienced
DSU Outcomes

<table>
<thead>
<tr>
<th>Modality</th>
<th>Outcome</th>
</tr>
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<tbody>
<tr>
<td>Home modality</td>
<td>40%</td>
</tr>
<tr>
<td>Facility based HD</td>
<td>30%</td>
</tr>
<tr>
<td>Recovered kidney function</td>
<td>10%</td>
</tr>
</tbody>
</table>
Provincial Data

6-Month Incident Rate
Ontario, Quarterly Trend

ORN 6-Month Incident ID Rate by CKD Regional Program, Q4 FY13/14

Target of 40% new dialysis patients will be on ID option within 6 months of initiating dialysis

Proportion of Patients (%)

CKD Regional Program

Report Date: February 2015
Source: Ontario Renal Reporting System
Please refer to Technical Information for methodology details
Activity of Acute Patients

IC-HD, PD, HHD, t-out, for RMC, recovered, death, unknown, palliative, no change, from RMC
Modality Selection of Acute Patients

41% chose home based modality > provincial target of 40%
Lessons Learned

- Strong leadership
- Commitment and shared vision from all members
- Mandatory weekly meetings
- Successful communication
- Data collection
Bibliography


