TREAT Today and Tomorrow: Pilot program & Potential Nested Studies

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Rationale

- Bleeding is a common complication
- Bleeding is associated with short- and long-term morbidity and mortality
- Bleeding most commonly occurs at the vascular access site in pts undergoing PCI
- Bleeding limits the clinical use of certain antithrombotic therapies
PCI-related complications and costs

N=335,477 Medicare pts undergoing PCI in 2002

Incidence of Complications

<table>
<thead>
<tr>
<th>Condition</th>
<th>Incidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Death</td>
<td>1.9%</td>
</tr>
<tr>
<td>CABG</td>
<td>0.55%</td>
</tr>
<tr>
<td>Stroke</td>
<td>0.16%</td>
</tr>
<tr>
<td>Renal failure</td>
<td>2.27%</td>
</tr>
<tr>
<td>Vascular</td>
<td>5.47%</td>
</tr>
</tbody>
</table>

Incremental Cost

<table>
<thead>
<tr>
<th>Condition</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Death</td>
<td>$19,208</td>
</tr>
<tr>
<td>CABG</td>
<td>$31,104</td>
</tr>
<tr>
<td>Stroke</td>
<td>$13,929</td>
</tr>
<tr>
<td>Renal failure</td>
<td>$21,468</td>
</tr>
<tr>
<td>Vascular</td>
<td>$6,377</td>
</tr>
</tbody>
</table>

Kugelmann A, et. al. AJC 2006
Bleeding in PCI Trials: Frequency and site*

Among bleeders

Access bleed 70%

NAS bld 30%

No bleeding 93%

Non-access bld 2%

Access site bld 5%

*All transfemoral access

Rao SV, et. al., JACC 2010 (in press)
Transradial access and outcomes

N=21 studies, 5600 patients

- PCI Failure: Transfemoral better
  - Odds Ratio: 1.31 (0.87-1.96)
- Access site crossover: Transfemoral better
  - Odds Ratio: 3.82 (2.83-5.15)
- Death: Transradial better
  - Odds Ratio: 0.74 (0.42-1.30)
- Death, CVA, or MI: Transradial better
  - Odds Ratio: 0.71 (0.49-1.01)
- Major bleeding: Transradial better
  - Odds Ratio: 0.27 (0.16-0.45)

Jolly SS, AHJ 2008
Poll

What is the main reason not to use the radial approach?

- Lack of knowledge/ training: 32.58%
- Complex PCI: 31.46%
- I feel more comfortable with femoral access: 35.96%

How frequently should radial access for PCI be used?

- >50%: 34.07%
- 20% - 50%: 19.26%
- <20%: 46.67%

Is there any advantage to the radial approach over the femoral approach for PCI access?

- Yes: 32.95%
- No: 22.73%
- Only in a select group of patients: 44.32%
The design

- The goal: Can transradial reduce bleeding with accepted/approved antithrombotics and INFORM THE LABEL?
- TransRadial Eduction And Therapy (TREAT) Program
  - A series of programs that includes both prospective clinical investigations, educational programs, nested studies
  - Prospective registry
    - Uses NCDR CathPCI as a backbone
    - Site identification
    - Data collection with 1-2 unique pages
TREAT Pilot Program Design Assumptions

- Broad sampling of clinical practice
  - No exclusion criteria
  - Multiple anticoagulant/antiplatelet strategies
- Concomitant femoral procedures
- Collect complications – “costs” of the radial approach
Potential for nested studies

- Collect resource use
- Evaluate new devices whether designed specifically for radial approach or not
  - Catheters, Guides
  - Hemostasis devices
  - Access kits
- Incorporate new antithrombotic strategies as commercially available
  - Ticagrelor, Vorapaxar
  - Xa inhibitors, oral DTIs
TREAT - Challenges

- Low penetration of transradial in the US
  - “E” part of the TREAT
- Sampling of various antithrombotic agents and class effect of radial?
  - Does an effect in one agent translate to an effect in another in the same class?
- Is it reasonable to expect that data from a registry is sufficient to inform drug labeling?