Cost Implications Of PEVAR: How It Can Be Made Cost Effective?

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Disclosure

- W L Gore – Clinical Trials
- Bolton – Clinical Trials

Percutaneous EVAR

- Decreases
  - OR time
  - Time to ambulation
  - Wound complications
  - LOS

- Preclose technique
  - Prostar
  - Double Proglide

Cost of Proglide in the USA

- Lowest price $160
- Mid price $215
- Our cost $250

Objective

- To evaluate the financial efficacy of performing EVAR preferentially by PEVAR

Methods

- 67 EVAR performed between 2012 and 2013
- Clinical and financial information was retrieved from the EHR and hospital financial system
Results

• PEVAR attempted in 91% of elective EVAR
  o 73% entirely percutaneously (Bilateral)
  o 10% single sided (Unilateral)
  o 8% unsuccessfully (Failed)
  • Calcific vessels, unusual anatomy, groin scarring
  • Open Access (Non PEVAR) 9%

Operative Time

• Operative time (minutes) was significantly shorter for Bilateral PEVAR; P< 0.001
  o Bilateral 164
  o Unilateral 228
  o Unsuccessful 310
  o Non PEVAR 269

Closure Devices

• Mean number of closure devices used 4 (1-9)
• Mean cost $1,000
• 3.5% of total EVAR cost

LOS

• Bilateral and Unilateral PEVAR were more commonly discharged POD # 1; P <0.001
  o Bilateral  86%
  o Unilateral 57%
  o Failed    20%
  o Non PEVAR 17%

Clinical Outcomes

• Clinical outcomes of Failed PEVAR comparable to Non PEVAR
  o Intra-operative complication; P= 0.25
  o Operative time; P= 0.31
  o 30-Day hospital readmission; P=0.25
  o Re-intervention rates; P= 0.34

Mean Hospital Cost

<table>
<thead>
<tr>
<th>Costs</th>
<th>Bilateral PEVAR</th>
<th>Unilateral PEVAR</th>
<th>Failed PEVAR</th>
<th>All PEVAR</th>
<th>Non PEVAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Hospital</td>
<td>$27,679</td>
<td>$32,022</td>
<td>$34,482</td>
<td>$28,690</td>
<td>$36,976</td>
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<tr>
<td>Total O.R.</td>
<td>$22,772</td>
<td>$24,997</td>
<td>$26,109</td>
<td>$23,279</td>
<td>$27,800</td>
</tr>
<tr>
<td>O.R. Room Use</td>
<td>$1,763</td>
<td>$1,945</td>
<td>$2,662</td>
<td>$1,836</td>
<td>$2,690</td>
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<tr>
<td>Graft</td>
<td>$16,883</td>
<td>$18,573</td>
<td>$15,643</td>
<td>$16,981</td>
<td>$19,413</td>
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<tr>
<td>Closure Device</td>
<td>$1,047</td>
<td>$451</td>
<td>$1,348</td>
<td>$1,000</td>
<td>---</td>
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<tr>
<td>O.R. Other</td>
<td>$1,448</td>
<td>$1,796</td>
<td>$1,914</td>
<td>$1,527</td>
<td>$1,839</td>
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<tr>
<td>Anesthesia</td>
<td>$490</td>
<td>$1,055</td>
<td>$1,292</td>
<td>$615</td>
<td>$1,182</td>
</tr>
</tbody>
</table>
Hospital Reimbursement

- Reimbursement did not differ significantly
  - Mean $23,170; P= 0.54
- Contribution Margin was favorable for Bilateral PEVAR only; P= 0.024
  - Bilateral: +$483
  - Unilateral: -$4,515
  - Failed: -$5,354
  - Non PEVAR: -$2,903

Conclusions

- Majority of EVARs can be completed by Bilateral PEVAR
  - Closure device costs are offset by shorter O.R. time and LOS
  - Improved hospital contribution margin

How PEVAR can be made cost effective?

- Negotiate the price of closure devices with the manufacture
- Negotiate the reimbursement rate for PEVAR with the insurance companies

Thank-you