Ambicor Penile Prosthesis: Uses and Outcomes

Disclosure

I have no relevant financial relationships to disclose:

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Introduction

• The “Prospective Registry of Outcomes with Penile Prosthesis for Erectile Restoration” (PROPPER) is a large, multi-institutional, prospective clinical study
• Main function is to collect, analyze, and report real-world outcomes for men implanted with penile prosthetic devices.

• Data collected
  – Patient demographics
  – Surgery parameters, including approach
  – Complications
  – Device survival
  – Patient satisfaction

• Visits
  - Baseline
  - Procedure
  - Annual follow-ups 1-5 years
Introduction

- The Ambicor (2-piece) introduced in 1994 as a successor for the defunct, 1-piece Dynaflex.

- In 1998, the Ambicor underwent 2 revisions to enhance reliability
  - Redesign of the RTE
  - Redesign of pump-tubing intersection
AIMS

• Other than 2 studies with focus on mechanical reliability/satisfaction, there is a paucity of data relating to contemporary use of Ambicor

• Major aim is to understand the selection, implantation, and use of Ambicor (2-piece) penile prosthesis as compared the AMS 700 (3-piece).
Methods

• Data Collection
  – Baseline
    • Demographics, etiology, co-morbidities, Duration of ED
    • Questionnaires: IIEF-5, EHS, AUA-SI, UCLA-PCI

• Implant
  – Operative technique
  – Implant length
  – Duration of surgery
  – Hospital Admission
  – Satisfaction
<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>AMS 700</th>
<th>AMS Ambicor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>n (total)</strong></td>
<td>1255</td>
<td>1228</td>
<td>27</td>
</tr>
<tr>
<td><strong>Age (years)</strong></td>
<td>63.7 ± 9.7</td>
<td>63.8 ± 9.7</td>
<td>58.3 ± 11.2</td>
</tr>
<tr>
<td><strong>Mean duration of ED (yrs)</strong></td>
<td>6.9 ± 4.5</td>
<td>6.9 ± 4.5</td>
<td>7.0 ± 5.0</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White/Caucasian</td>
<td>980 (78.1%)</td>
<td>968 (78.0%)</td>
<td>22 (81.5%)</td>
</tr>
<tr>
<td>Black/AA</td>
<td>174 (78.1%)</td>
<td>172 (14.0%)</td>
<td>2 (7.4%)</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>62 (4.9%)</td>
<td>59 (4.8%)</td>
<td>3 (11.1%)</td>
</tr>
<tr>
<td>Other</td>
<td>20 (1.6%)</td>
<td>20 (1.6%)</td>
<td>0 (0.0%)</td>
</tr>
</tbody>
</table>
# Results

## Primary Etiology of ED

<table>
<thead>
<tr>
<th>Primary Etiology, n = 1255</th>
<th>Total</th>
<th>AMS 700</th>
<th>AMS Ambicor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radical Prostatectomy (RP)</td>
<td>340 (27.1%)</td>
<td>335 (27.3%)</td>
<td>5 (18.5%)</td>
</tr>
<tr>
<td>Diabetes (DM)</td>
<td>265 (21.1%)</td>
<td>261 (21.3%)</td>
<td>4 (14.8%)</td>
</tr>
<tr>
<td>Cardiovascular disease (CV)</td>
<td>239 (19.0%)</td>
<td>234 (19.1%)</td>
<td>5 (18.5%)</td>
</tr>
<tr>
<td>Peyronie’s Disease (PD)</td>
<td>111 (8.8%)</td>
<td>111 (9.0%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>Priapism</td>
<td>17 (1.4%)</td>
<td>16 (1.3%)</td>
<td>1 (3.7%)</td>
</tr>
<tr>
<td>Other*</td>
<td>283 (22.5%)</td>
<td>271 (22.1%)</td>
<td>12 (44.4%)@</td>
</tr>
</tbody>
</table>

* Other = Radical pelvic surgery, pelvic radiation, SCI, other neurologic d/o

@ SCI represents 3/12 of these men
Primary Etiology of ED

Etiology
AMS 700

- 28% Other
- 22% Priapism
- 9% CV
- 1% DM
- 19% PD
- 21%

Etiology
Ambicor

- 43% Other
- 19% Priapism
- 15% CV
- 19% DM
- 4% PD
- 21%

Northwestern Medicine
## Results

<table>
<thead>
<tr>
<th></th>
<th>AMS 700</th>
<th>AMS Ambicor</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration of Procedure (min)</td>
<td>46.9±29.3</td>
<td>70.7 ± 26.8</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td>Use of Advanced Dilation</td>
<td>205 (16.7%)</td>
<td>13 (48.1%)</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td>Techniques</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Device Length (cm)</td>
<td>21.3±2.4</td>
<td>19.1±2.8 cm</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td>Hospital Admission (&gt;24h)</td>
<td>57 (4.6%)</td>
<td>8 (29.6%)</td>
<td>p&lt;0.001</td>
</tr>
</tbody>
</table>
Results

• Patient satisfaction, IIEF-5, EHS, AUA-SI, and UCLA-PCI were similar between groups at every time during follow-up (2 years).

• 75% of Ambicor patients were using the device “regularly” 2 years post-surgery.

• 99% of Ambicor patients report that they are satisfied or very satisfied.
Conclusions

- Ambicor penile prosthesis is implanted most commonly for RRP, DM, CV and SCI.

- Implanted Ambicor length is significantly shorter than the AMS 700

- Ambicor takes longer to implant and is frequently associated with the use of advanced techniques to dilate the corpora

- Patient satisfaction remains extremely high.

- The use of the Ambicor prosthesis for severe ED is still a viable option in the selected patient, however, this may require an advanced skillset.