Estimates of Long-term Effectiveness of Transvaginal Uterosacral Colpexy and Minimally Invasive Sacral Colpexy for the Treatment of Pelvic Organ Prolapse

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Background

- The recently published OPTIMAL trial found that there were no significant differences in outcomes between patients undergoing transvaginal uterosacral colpexy and those undergoing sacrospinous colpexy
- Sacrospinous colpexy has also been compared to and found to be as effective as open abdominal sacral colpexy
- There are also several observational studies and two randomized controlled studies comparing robotic and laparoscopic sacral colpexy
- Studies have also looked at the differences between both minimally invasive abdominal sacral colpexy (robotic and laparoscopic) and open abdominal sacral colpexy
- The majority of these studies have demonstrated that the transvaginal as well as the laparoscopic and robotic approaches appear safe and effective, with limited risk of complications and good long-term efficacy
- While efficacy outcomes data for each route exist, there are currently few studies that look at outcomes beyond 2 to 3 years

Objective

- To estimate long-term rates of recurrent POP among patients who underwent transvaginal uterosacral colpexy, laparoscopic and robotic sacral colpexy at a large tertiary care center

Methods

- Retrospective cohort study of women who underwent transvaginal uterosacral colpopexy, laparoscopic and robotic sacral colpopexy between 2006 and 2012
- Subjects were identified by their assigned CPT code for intraperitoneal colpopexy (57283) and sacral colpopexy (57425)
- Once patients identified, the EMR was queried for demographic, peri- and postoperative data
- Follow-up times were defined as the last visit at which each subject was evaluated by a gynecology provider
- The composite outcome for recurrent POP was defined as:
  - Subjective failure - symptomatic feeling of a vaginal bulge
  - Objective failure - any prolapse of the vaginal wall to or below the hymen
  - Any retreatment (reoperation or pessary)

Results

### Patient Characteristics & Concomitant Procedures at the Time of Colpexy

<table>
<thead>
<tr>
<th>Age (±SD) years</th>
<th>UC (n=963)</th>
<th>LSC (n=256)</th>
<th>RSC (n=142)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>61 (11)</td>
<td>63 (17)</td>
<td>60 (9)</td>
<td></td>
<td>0.001*</td>
</tr>
<tr>
<td>BMI (±SD) kg/m²</td>
<td>28.1 (5.2)</td>
<td>27.8 (5.0)</td>
<td>27.3 (4.3)</td>
<td>0.16</td>
</tr>
<tr>
<td>Vaginal Parity (median [range])</td>
<td>3 (0-10)</td>
<td>2 (0-7)</td>
<td>2 (0-6)</td>
<td>0.16</td>
</tr>
<tr>
<td>POP Stage (median [range])</td>
<td>3 (2-4)</td>
<td>3 (2-4)</td>
<td>3 (2-4)</td>
<td>0.08</td>
</tr>
<tr>
<td>Previous POP Surgery (%)</td>
<td>6.8*</td>
<td>36.3</td>
<td>40.1</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>Menopausal (%)</td>
<td>82.2</td>
<td>77.7</td>
<td>88.0*</td>
<td>0.04*</td>
</tr>
<tr>
<td>Tobacco (%)</td>
<td>7.5</td>
<td>7.4</td>
<td>8.5</td>
<td>0.29</td>
</tr>
<tr>
<td>Hysterectomy (%)</td>
<td>88.2*</td>
<td>28.9</td>
<td>19.7</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>Anterior Repair (%)</td>
<td>60.0*</td>
<td>6.6</td>
<td>8.5</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>Posterior Repair (%)</td>
<td>58.1</td>
<td>49.2</td>
<td>33.8*</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>Midurethral Sling (%)</td>
<td>59.7</td>
<td>66.4</td>
<td>62.0</td>
<td>0.15</td>
</tr>
</tbody>
</table>

### Estimated Probability of Recurrent POP after Transvaginal Colpexy and Minimally Invasive Sacral Colpexy using Composite and Individual Definitions

#### Surgical Curves by Definition of Recurrence

- UC: Uterosacral Colpexy
- LSC: Laparoscopic Sacral Colpexy
- RSC: Robotic Sacral Colpexy

#### Analyses

- Patient characteristics were compared using Chi-squared tests and t tests
- Kaplan-Meier survival curves were generated
- Parametric survival models were used to estimate recurrent POP rates over 6 years
  - Rates were adjusted for age, vaginal parity, previous POP surgery, POP-Q C point, and concomitant posterior colporrhaphy

#### Conclusions

- Estimated recurrence rates for uterosacral ligament colpexy, laparoscopic and robotic sacral colpexy may be as high as 40%-60% 6 years after surgery
- Patient-centered outcomes have slower rates of recurrence than anatomic outcomes among these three approaches
- Comparisons of recurrence after POP surgery should be substantially longer than 1 or 2 years since there appear to be differential rates of recurrence between approaches and should include subjective and objective definitions of recurrence
- Future studies should investigate which outcomes are most important to patients in order to guide valid comparisons between approaches for POP surgery

### Disclosures

- Dr. Walters is a consultant for Ethicon, Inc
- Dr. Jelovsek is a primary investigator for the PFDN and NICHD
- Dr. Barber is a site investigator for the PFDN
- Dr. Paraiso is a consultant for Coloplast, Inc. and ACell, Inc