Resection of pubic symphysis with cystectomy and urinary diversion improves long term patient reported physical health measures among patients with urosymphyseal fistula

William R Boysen, Brian M. Inouye, Andrew C Peterson

Duke University Division of Urology
Durham, NC USA
Fistulization from the urinary tract to the pubic symphysis with resultant osteomyelitis is a devastating complication of prostate cancer treatment.

Bugeja et al, 2016
Gupta et al, 2015
Matsushita et al, 2012
Numerous muscle and tendon insertions on the pubic symphysis → potential for inflammation/infection to extend to these muscles

Leads to:
- debilitating pain with ambulation, entering/exiting bed, standing
- risk of abdominal wall and thigh abscess formation
Surgical management with removal of the pubic symphysis and infected bone at time of cystectomy and urinary diversion can cure the associated pain and chronic infection.

Lavien et al, 2017
Objectives

• To determine the impact of urinary diversion with pubic bone resection on patient reported outcome measures
  – Focus on physical functioning and mental health

• We hypothesized that patient reported physical and mental function would improve following surgery
Methods

• Administered the Short-Form 12 (SF-12) questionnaire to men treated for pubovesical fistula at our institution, 2012-2019
  – Generates a physical composite score (PCS) and mental health composite score (MCS) ranging from 0 to 100, which can be compared to population means for a given age group

• Example questions:
  – During the past 4 weeks, how much did pain interfere with your normal work (including work outside the home and housework)?

  – How much of the time during the past 4 weeks have you felt down-hearted and blue?
Methods

• The SF-12 was administered at most recent clinic follow up, as well as preoperatively to a subset of patients

• Analysis performed using descriptive statistics and Mann-Whitney U-test
Results

Post-operative surveys completed by 12 patients:

<table>
<thead>
<tr>
<th>Total patients, n</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years), mean (SD)</td>
<td>70.3 (6.5)</td>
</tr>
<tr>
<td>Follow up (months), mean (SD)</td>
<td>16.2 (19.8)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Prior Radiation, n (%)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>10 (83.3 %)</td>
</tr>
<tr>
<td>No</td>
<td>2 (16.7 %)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Prior Prostatectomy, n (%)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>5 (41.7 %)</td>
</tr>
<tr>
<td>No</td>
<td>7 (58.3%)</td>
</tr>
</tbody>
</table>
Significant improvement in physical function scores from baseline
Results

Significant improvement in physical function scores from baseline

Mental health scores unchanged from baseline

Compostite SF-12 Physical Scores

Compostite SF-12 Mental Scores
Results

Comparison to population average for age range:
- Preoperative scores significantly lower than population average (p=0.01 and p=0.01)
- Postoperative scores equivalent to population average (p=1.0 and p=0.12)
Conclusion

- Despite resection of the pubic symphysis, radical surgery for pubo-vesical fistula results in improved physical function scores.

- Preoperative physical and mental function scores are well below the national average, but both return to the population average following surgery.

- Further study with a larger cohort of patients is needed.