Short segment orthotopic ileal neobladder after radical cystectomy for bladder cancer: Does size matter?

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Objective

To evaluate the functional outcome of orthotopic neobladder reconstruction, using a short loop of ileum following radical cystectomy for bladder cancer
Introduction

• In low income countries
  • Accessories for stoma, expensive in the long term
  • Access to clean water makes clean intermittent catheterisation difficult

• An ideal neobladder should have
  • Adequate functional capacity
  • Be able to empty to completion on voiding
  • Low pressure to preserve upper tracts and renal function

• Is the short loop ileal (35+5cm) pouch, the answer?
Materials and methods

• Study period: 16 years (2003-2019)

• Inclusion
  • All patients who underwent short segment ileal neobladder following at least one side nerve sparing radical cystectomy for bladder cancer

• Data retrieved from electronic medical records
Pre op protocol

- Pelvic floor exercises taught early
- Instructed to practice multiple times daily
- Physical or video/audio meeting facilitated with those who have undergone the same procedure and speak the language
Technique (N pouch)

• Nerve sparing radical cystectomy
• 40 cm ileal segment
• 35 cm de-tubularised for pouch
• 5 cm chimney for uretero-ileal anastomosis
• Ureteric splints externalized per abdomen
• Suprapubic and urethral catheter
• Abdominal drain
Technique (N pouch)
Post-op protocol

- Daily saline washes
- Ureteric splints removed at 2 weeks
- Urethral catheter at 3 weeks
- Penile rehabilitation with PDE-5 inhibitors

Patient training
- Pelvic floor exercises continued
- Frequent timed voiding
- Alarm regulated void at night
- Voided volumes gradually increased to 350-400ml over one year
Follow up

• 3 month, 6 months, yearly
• Incontinence severity assessed
  • Continent: no pads / occasional prophylactic
  • Mild incontinence: one pad day or night
  • Incontinent: 2 or more pads day/night
• Erectile function

• Flow and post void residue
• Serum Biochemistry
• Imaging
  • CT, U/S
Results

- Total No: 39
- Age mean (SD): 50.7 years (±10.5)
- Types of pouches:
  - N pouch: 34
  - Studer: 3
  - W pouch: 2
- Follow up (mean): 54 months
Histology: n=39

Pre op
- T1 high grade with Cis 17
- T2 various grades 20
- T3 2

Post op
Upstaged
- T1 to T2 6 (15%)
- T2 to T3 9 (23%)
- Same stage 24 (64%)

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Pelvic lymphadenectomy

Standard template

• No of nodes removed  27 (max)
• Node negative disease  36 (92.3%)
Continence: n=39

<table>
<thead>
<tr>
<th>Parameter</th>
<th>N(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continent at 2 weeks after catheter removal</td>
<td>23(59%)</td>
</tr>
<tr>
<td>Continent at 3 months</td>
<td>31(77%)</td>
</tr>
<tr>
<td>Continent at 12 months</td>
<td>34(87%)</td>
</tr>
<tr>
<td>Stress leak</td>
<td>5(13%)</td>
</tr>
</tbody>
</table>
Flow: n=36

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow rate ml/sec</td>
<td>22(12)</td>
</tr>
<tr>
<td>Voided volume ml</td>
<td>273(108)</td>
</tr>
<tr>
<td>PVR ml</td>
<td>30(23)</td>
</tr>
</tbody>
</table>
Voiding: n=38

• Spontaneous voiding in all
• NO clean intermittent catheterisation required
## Renal function: n=38

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creatinine mg/dl</td>
<td>1.12(0.3)</td>
</tr>
<tr>
<td>Chloride mEq/L</td>
<td>104(5.2)</td>
</tr>
</tbody>
</table>

- Imaging
  - Upper tracts preserved in all
Erections: n=33

<table>
<thead>
<tr>
<th>Erection</th>
<th>N(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potent without PDE5 inhibitors</td>
<td>17(51)</td>
</tr>
<tr>
<td>Potent with PDE5 inhibitors</td>
<td>6(18)</td>
</tr>
</tbody>
</table>
## Survival: n=39

<table>
<thead>
<tr>
<th>Parameter</th>
<th>N(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall survival</td>
<td>33(84%)</td>
</tr>
<tr>
<td>Mortality</td>
<td>6(15.3%)</td>
</tr>
</tbody>
</table>
## Complications

<table>
<thead>
<tr>
<th>Complication</th>
<th>Number%</th>
<th>Clavien Dindo grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prolonged Lymphorrhea</td>
<td>14(63.3%)</td>
<td>1</td>
</tr>
<tr>
<td>Superficial wound infection</td>
<td>6(15%)</td>
<td>1</td>
</tr>
<tr>
<td>Sepsis</td>
<td>6(15%)</td>
<td>2</td>
</tr>
<tr>
<td>Wound dehiscence</td>
<td>1(2.5%)</td>
<td>1</td>
</tr>
<tr>
<td>Intestinal obstruction</td>
<td>1(2.5%)</td>
<td>2</td>
</tr>
<tr>
<td>Urine leak</td>
<td>1(2.5%)</td>
<td>3b</td>
</tr>
</tbody>
</table>

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Pouch -IVU
Calculus on a suture
Conclusions

• Orthotopic neobladder reconstruction using a short loop of ileum 40cm (35+5) in a carefully selected group, had good outcomes in terms of
  • Continence
  • Functional capacity
  • Voiding to completion
  • Upper tract preservation and renal function
Thank you