Long, complex, or recurrent ureteral strictures may require ileal ureter interposition, which remains an important reconstructive option. Reported long-term success rate is 75-85%.

Purpose and Background

- Long, complex, or recurrent ureteral strictures may require ileal ureter interposition, which remains an important reconstructive option.
- Reported long-term success rate is 75-85%.
- We report on our 16 year institutional experience with ileal ureter interposition.

Materials and Methods

- Retrospective review of three surgeons’ experience at a single institution’s ureteral reconstruction database was performed (2003-2019).
- Unilateral strictures were treated with ipsilateral ileal interposition when possible. A “reverse 7” interposition was used for patients with bilateral strictures.
- Preoperative patient demographics, ureteral stricture characteristics, intraoperative variables, complications, and secondary procedures were recorded.
- Success rate was defined as no need for further intervention.

Results

- Between 2003 and 2019, 188 ureteral reconstructions were performed, of which 46 required ileal ureter interposition (10 bilateral).
- Average age = 53 years, 44% male, 96% Caucasian, 11% Hispanic/Latino.
- Stricture etiology: iatrogenic causes (n=24, 52%), radiation (n=12; 26%), vascular disease (n=3; 7%), idiopathic retroperitoneal fibrosis (n=3; 7%), and other causes including congenital and trauma (n=4; 9%).
- Half (n=23) received prior intervention, all required prior stent or PCN.
- 23 patients (50%) had any complication (Clavien Dindo 1).
- 11 (24%) patients had a major (Clavien Dindo 3a or greater) complication.
- At avg. of 3.3 year follow up, 8 (17%) patients required additional open procedures.
- Of these, 5 underwent successful revision of the ileal ureter while 3 required nephrectomy due to persistent pain or chronic pyelonephritis.

Conclusions

- In our long-term follow up of over 3 years, ileal ureter interposition is a successful option for complex ureteral strictures in properly selected patients.
- Use of the “Care Everywhere” function in Epic allows long-term follow up of patients followed out-of-state.
- Limitations of study include retrospective nature, and variable follow up intervals, although this is common at a tertiary referral center.
- In this single-institution retrospective cohort, long-term outcomes at 4 years are comparable to the existing literature, with an 83% success rate in which no further open procedures are required.

Acknowledgements & Disclosures

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Selected References


Table 1. Contemporary Series of Ileal Ureteral Interposition

<table>
<thead>
<tr>
<th>Author, Year</th>
<th>Description</th>
<th>Bilateral</th>
<th>% Complications</th>
<th>Average followup months</th>
<th>% Success Rate</th>
<th>Definition of Failure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meert et al., 2018</td>
<td>Radiation cases</td>
<td>10.2</td>
<td>29.8</td>
<td>19.2</td>
<td>102/306</td>
<td>98% Anastomotic stricture</td>
</tr>
<tr>
<td>Stein et al., 2009</td>
<td>Laparoscopic v. Open</td>
<td>41.3</td>
<td>31.7</td>
<td>10.3</td>
<td>14/34</td>
<td>100% Anastomotic stricture</td>
</tr>
<tr>
<td>Chung et al., 2006</td>
<td>Long-term f/u</td>
<td>3.5</td>
<td>28.6</td>
<td>72.4</td>
<td>54/56</td>
<td>98% Anastomotic stricture</td>
</tr>
<tr>
<td>Mafalda et al., 2009</td>
<td>Contemporary series</td>
<td>11.1</td>
<td>16.6</td>
<td>18.8</td>
<td>18/58</td>
<td>90%</td>
</tr>
<tr>
<td>Shokier et al., 1995</td>
<td>Modified ileal ureter</td>
<td>0</td>
<td>–unst</td>
<td>0/45</td>
<td>98%</td>
<td>Iatrogenic obstruction</td>
</tr>
<tr>
<td>Boose et al., 1978</td>
<td>UCLA Series</td>
<td>0</td>
<td>–unst</td>
<td>–unst</td>
<td>7/20</td>
<td>91%</td>
</tr>
</tbody>
</table>

Table 2. Per-operative and long-term outcomes after ileal ureter interposition

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Radiated (n=19)</th>
<th>Non-Radiated (n=27)</th>
<th>Total (n=46)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stricture length (cm)</td>
<td>11.22</td>
<td>7.77</td>
<td>9.13</td>
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<tr>
<td>Length of operation (min)</td>
<td>42</td>
<td>37</td>
<td>412</td>
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<tr>
<td>Estimated Blood Loss (mL)</td>
<td>561</td>
<td>255</td>
<td>417</td>
</tr>
<tr>
<td>Length of Stay (days)</td>
<td>13.5</td>
<td>7.52</td>
<td>10</td>
</tr>
<tr>
<td>Successful outcome</td>
<td>89% (17)</td>
<td>78% (21)</td>
<td>83% (38)</td>
</tr>
</tbody>
</table>

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