Augmentation Cystoplasty in Adult Patients with Renal Impairment

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ABSTRACT
Bladder augmentation is beneficial in patients with neurogenic bladder due to spinal cord injury, multiple sclerosis, and tuberculous bladder. This retrospective study was done to determine the outcome of augmentation cystoplasty in adult patients with renal dysfunction. The study was done at the Sindh Institute of Urology and Transplantation (SIUT), Karachi from January 2010 till December 2019. A total of 153 patients underwent augmentation cystoplasty. Among these, 28 patients met the inclusion criteria of adult patients with age >18 years, and renal impairment at the time of the procedure. Exclusion criteria were patients with normal renal functions. Out of 28 patients, 17 (60%) showed improvement in renal functions post-augmentation cystoplasty, while 2 (7.14%) deteriorated and 9 (32.13%) patients showed static function in the same chronic kidney disease stages. Results from this study showed that augmentation cystoplasty is a safe operative procedure even in renal failure patients. It leads to improvement in renal functions in a significant number of patients.

Key Words: Adults, Augmentation cystoplasty, Renal failure, Bladder compliance.

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The current series is limited by the retrospective nature of data collection which has limited some of the details we have, its single centre origin and short-term follow-up (6 months follow-up post-augmentation cystoplasty).

In conclusion, augmentation cystoplasty is a safe operative procedure even in patients with prior renal dysfunction. Further deterioration of renal function can occur due to recurrent UTIs or persistent VURs, which are the main culprit of renal deterioration.

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COMPETING INTEREST:
The authors declared no competing interest.

AUTHORS’ CONTRIBUTION:
MAJ: Conception and study design, interpretation of data, discussion.
ML: Interpretation of data, discussion, organisation.
SKP: Data collection, analysis of data interpretation of data.
AAR: Collection of data.
MH: Organisation of data.
AHR: Director of the institute.

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REFERENCES


Table I: Frequency of postoperative complications.

<table>
<thead>
<tr>
<th>Complications</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urinary tract infections (UTIs)</td>
<td>4 (14.28%)</td>
</tr>
<tr>
<td>Vesicoureteric reflux</td>
<td>3 (10.71%)</td>
</tr>
<tr>
<td>Mitrofanoffstenosis</td>
<td>2 (7.14%)</td>
</tr>
<tr>
<td>Wound infections</td>
<td>2 (7.14%)</td>
</tr>
<tr>
<td>Bladder neck contracture</td>
<td>1 (3.57%)</td>
</tr>
<tr>
<td>Enterocutaneous fistula</td>
<td>1 (3.57%)</td>
</tr>
</tbody>
</table>

Figure 1: Post-augmentation cystoplasty eGFR values at 1st, 2nd, 3rd and 4th visits.

Athawale et al. reported that 5 (16.66%) patients out of 30 were in renal failure at the time of augmentation cystoplasty. Out of 5 patients with elevated serum creatinine >2.5mg/dl, 40% (n=2) improved renal functions post-augmentation cystoplasty, while 60% (n=3) patients required hemodialysis. Singh et al. showed that patients with serum creatinine >1.54 mg/dl during surgery was associated with poor outcome in term of renal function post-augmentation cystoplasty in pediatric patients. Reid et al. showed improved renal function of serum creatinine from 61.74 mmol/L to 69.18 mmol/L post-augmentation cystoplasty.