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Introduction

- Currently there is very little literature on reconstructive urological outcomes and morbidity rates following total pelvic exenteration (TPE) surgery for locally advanced rectal cancer (LARC) or recurrent rectal cancer (RRC).

Aims

- We therefore decided to assess the urological complications and outcomes of urinary tract reconstruction, following surgery for LARC or RRC in our hospital.
- Furthermore we assessed outcomes based on chemoradiation status in both groups.

Methods

- A total of 106 patients who underwent TPE surgery for LARC or RRC at our centre from 2004 to 2016 were included in this single centre retrospective study.
- Our database was analysed to identify those who experienced urological complications following surgery, using electronic patient records, paper notes and community practitioners for data extraction when available for longer term complications.
- Outcomes between patient groups were compared using Fisher's exact test with a threshold of significance of $p < 0.05$.

Results

- Patient demographics are displayed in Table 1.
- The mean follow up in our series was 36.5 months (3-60 months).
- The urological complication rate in our series was 48.1%. The majority of complications had a Clavien-Dindo score of 2 (38%), whilst five patients (6%) sustained Clavien-Dindo 4 complications (Table 2).
- The most common complications were urinary tract infections (43%), renal insufficiency (16%) and AKI (12%). Ureteric strictures were seen in 6%, fistulas in 4% and re-operation rates at 8.5% for the cohort (Table 3).
- No significant differences were seen in urological outcomes in patients with LARC or RRC ($p=1$), or chemo-radiation status ($p=0.78$).

Table 1: Demographics	n	Median Age	Median ASA	Median BMI
Overall average Demographics	106	61.2	2.07	25.6
Rectal cancer (Primary/Recurrent)	P: 62% R: 38%	60.1 62.9	2.02 2.15	25.0 26.7
Chemoradiotherapy (Yes/No)	Y: 63% N: 37%	60.9 61.5	2.06 2.08	25.7 25.0
Gender (Male/Female)	M: 71% F: 29%	61.3 60.9	2.01 2.19	25.4 27.0

Table 2: Clavien-Dindo	Total
Non-Clavien	39
Clavien I	5
Clavien II	26
Clavien IIIa	21
Clavien IIIb	9
Clavien IVa	4
Clavien IVb	1
Clavien V	1

Table 3: Urological Complications	Total	Reoperation Rate (%)
UTI	22	
Pyelonephritis	4	
Renal Insufficiency	8	
AKI	6	
Stricture	3	100
Stones	1	
Leaks	4	100
Obstruction	1	
Fistula	2	100
Total	51	

Conclusion

- Similar outcomes were surprisingly seen in those with LARC and RRC, as well as those who did and did not receive chemoradiation. This may be attributable to high dissection of ureters and choice of bowel segments outside the radiation field.
- Our TPE cohort had acceptable urological outcomes and complication rates with both groups, and those receiving chemoradiation. The majority of complications were infection related leading to pharmacological intervention.
- Nevertheless, patients should be well informed of the high complication rates following TPE surgery.