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Introduction:

Despite the increasing popularity gained by Robot assisted radical cystectomy (RARC), extracorporeal urinary diversion is still the most performed approach. There is paucity of data about functional outcomes of RARC with intracorporeal ileal neobladder (iN). The aim of this study was to report mid-term functional outcomes of RARC-iN.

Results:

Overall, 145 patients were included, 110 were male (75.8%). Median baseline estimated glomerular filtration rate (eGFR) was 83 ml/min (IQR 65.2-96.5). At a median follow- up of 26 months (IQR 13-45), actual eGFR was 64.2 ml/min (IQR 46-80). The incidence of significant renal function deterioration (newly onset CKD stage $\geq 3b$) was 13.1%, while the overall incidence of renal function deterioration (newly onset CKD stage $\geq 3a$) was 34.4%. Neobladder stone formation occurred in 8 patients (5.5%), all of which successfully treated as outpatient endoscopic procedure. One-year incidence of ureteroileal strictures was 15.1%; 50% of these patients were treated with percutaneous nephrostomy and antegrade ureteral stenting, 50% underwent uretero-ileal reimplantation. Overall, 1- year day-time and night-time continence rates were 77.2 % and 49.2 %, respectively. Male and female patients had comparable day-time continence recovery probabilities (p=0.51). Overall, self-catheterization was adopted by 7 patients (4.8%, 3 male, 4 female).

Patients, n	145
Follow-up, months, median (IQR)	26 (13-45)
Last eGFR, ml/min, median (IQR)	64.2 (46-80)
New onset of CKD stage $\geq 3a$, n (%)	50 (34.4)
New onset of CKD stage $\geq 3b$, n (%)	19 (13.1)
Ureteroileal strictures, pts (%)	22 (15.1)
Ureteroileal reimplantation, pts (%)	11 (7.6)
Neobladder stones, n (%)	8 (5.5)
Time to Day-time continence, months, median (IQR)	3 (2-4)

Table 2

Patients, n	145
Male gender, n (%)	110 (75.8)
Age, yr, median (IQR)	62 (56-67)
BMI, median (IQR)	26 (24.1-28.2)
ASA score, median (IQR)	2 (2-2)
Preoperative eGFR, ml/min, median (IQR)	83 (65.2-96.5)
Hospital stay, days, median /IQR)	10 (8-13)
Operative time, min, median (IQR)	310 (260-360)
Neoadjuvant CHT, n (%)	54 (37.2)
pT stage, n (%)	
0, a, is	65 (44.9)
1	11 (7.6)
2	27 (18.6)
3	35 (24.1)
4	7 (4.8)
pN stage, n (%)	
0	116 (80)
1	14 (9.7)
2	15 (10.3)
Lymphnode count, Median (IQR)	33 (24-42)
Positive surgical margins, n (%)	9 (6.2)

Table 1

Material and methods:

Our single center IRB approved bladder cancer database was queried for “RARC” and “iN”. RARC& iN according to Padua Ileal Neobladder technique was previously described. Baseline demographic, clinical, perioperative and pathologic data were collected and reported. Functional outcomes assessed were the following: renal function modification over time, neobladder stone formation rate, development of uretero-ileal anastomosis strictures, night- and day-time continence rates, and need for self-catheterization. Kaplan-Meier method was performed to compare day-time continence recovery probabilities between male and female cohorts; Continence rates were computed at 3,6,12 and 18 months after surgery and the log rank test was applied to assess statistical significance between two groups.

Conclusions: We reported 1-yr complication outcomes and mid-term functional outcomes of RARC-iN after a standardized training program in a tertiary referral center. At mid-term evaluation, diversion related complications and functional outcomes of RARC-iN are encouraging and largely comparable to those of open series and RARC with extracorporeal diversion.

