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Readmission After Robot-assisted Radical Cystectomy: Outcomes and Predictors at 90-Day Follow-up

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Abstract

OBJECTIVE—To characterize the outcomes and predictors of readmission after robot-assisted radical cystectomy (RARC) during early (30-day) and late (31–90–day) postoperative periods.

METHODS—We retrospectively evaluated our prospectively maintained RARC quality assurance database of 272 consecutive patients operated between 2005 and 2012. We evaluated the relationship of readmission with perioperative outcomes and examined possible predictors during the postoperative period.

RESULTS—Overall 30- and 90-day mortality was 0.7% and 4.8%, respectively, with 25.5% patients readmitted within 90 days after RARC (61% of them were readmitted within 30 days and 39% were readmitted between 31–90 days postoperatively). Infection-related problems were the most common cause of readmission during early and late periods. Overall operative time and obesity were significantly associated with readmission (*P* = .034 and .033, respectively). Body mass index and female gender were independent predictors of 90-day readmission (*P* = .004 and .014, respectively). Having any type of complication correlated with 90-day readmission (*P* = .0045); meanwhile, when complications were graded on the basis of Clavien grading system, only grade 1–2 complications statistically correlated with readmission (*P* = .046). Four patients needed reoperation (2 patients in early "for appendicitis and adhesive small bowel obstruction" and 2 in late "for ureteroenteric stricture" readmission); meanwhile, 6 patients needed percutaneous procedures (4 patients in early "1 for anastomotic leak and 3 for pelvic collections" and 2 "for pelvic collections and ureterocutaneous fistula" in late readmission).

CONCLUSION—The rate of readmission within 90 days after RARC is significant. Female gender and body mass index are independent predictors of readmission. Outcomes at 90 days provide more thorough results, essential to proper patient counseling.

In 2012, an estimated 73,510 new cases of bladder cancer were diagnosed.[1] Radical cystectomy (RC) and pelvic lymphadenectomy are considered the standard of care for

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clinically localized muscle-invasive bladder cancer and high-grade recurrent non–muscle-invasive bladder cancer.[2]

Despite refinements of surgical technique, open RC still carries significant morbidities.[3–6] In an attempt to accelerate return to baseline quality of life, incorporation of clinical care pathways and innovation of robot-assisted radical cystectomy (RARC) have both been used in recent years.[7,8] RARC has been reported to be associated with reduced blood loss, lower transfusion rate, and a reduced need for postoperative analgesia. Postoperative patients have recovered bowel function quite rapidly. Furthermore, length of hospital stay (LOS) has decreased despite associated morbidities.[6,9,10] Improvement in clinical care pathways, development of the minimally invasive approach, and the emphasis of insurance policies for early patient discharge have all been established to manage costs. Annual cost of readmissions to the Medicare program was estimated at $15 billion, which led to recommendations of reducing payments by 3% in the year 2015 for readmissions.[11]

Methods of reporting complications might affect the complications rates after RARC. Most reported complications are limited to immediate postoperative period. Encompassed within this period are surgery-related complications, health care utilization, economic impact of readmissions, and any further treatment provided beyond the immediate postoperative period. In our study, we sought to understand the reasons for readmission after RARC in early and late postoperative periods and examined variables to identify the predictors for readmission.

PATIENTS AND METHODS

We retrospectively evaluated our prospectively maintained RARC quality assurance database of 272 consecutive patients operated between 2005 and 2012 by a single surgeon (K.A.G.) at our institution. Data were analyzed for demographics (age, gender, body mass index [BMI], American Society of Anesthesiologists [ASA] score, and smoking), preoperative disease-specific characteristics (preoperative serum creatinine, neoadjuvant chemotherapy, prior abdominal surgery, and pre-operative radiation), operative variables (estimated blood loss, LOS, intensive care unit [ICU] stay, and type and technique of diversion; intracorporeal vs extracorporeal), pathologic characteristics (tumor stage, soft tissue margins, lymph node yield, and positive nodes), and postoperative complications (Table 1).

RARC and urinary diversion using intracorporeal and extracorporeal types were performed using the previously described techniques.[7,12] Postoperatively, patients were observed in the surgical ICU for 24 hours. A nasogastric tube was placed intraoperatively and removed at postoperative day 1 in almost all cases. Oral fluids were started on day 1 postoperatively and then advanced to solids according to tolerance level. The patients remained hospitalized until they had a full return of bowel function, tolerated a regular diet, and had a good pain threshold. The drains were typically removed before discharge. The stents were removed 1–2 weeks after surgery. Venous thromboembolic events (VTE) prophylaxis consists of early mobilization and intermittent pneumatic device, whereas pharmacologic VTE prophylaxis was administered on the basis of individualized risk of VTE. Postoperative surveillance was performed on the basis of National Comprehensive Cancer Network guidelines and included evaluation of urine cytology, liver function tests, creatinine, and electrolytes every 3–6 months for 2 years and then as indicated. Chest, abdomen, and pelvis imaging were conducted every 3–12 months for 2 years on the basis of risk of recurrence and then as clinically indicated.

Readmission was defined as any unplanned inpatient admission to the hospital, including admissions to other institutions. Emergency room visits and admissions for elective procedures were not included if the patient was sent home the same day. Readmissions and complications were captured through institutional electronic medical records, including operative and nursing notes, discharge summaries, outpatient visits, and any existing documentation of telephonic and written correspondence with patients, and also with referring physicians and hospitals. All patients were able to follow-up in the outpatient clinics at their first (2–3 weeks) and the second (3 months/90 days) postoperative visits. Any information provided by the patients, including outside hospitalizations were noted, confirmed, and updated in the database. Patient comorbidity was assessed preoperatively using ASA score, and surgery-related complications were identified, defined, and classified using the modified Dindo-Clavien system.[13]

Patients were divided into 2 groups; group 1 (203 patients) included patients who were not readmitted within 90 days of surgery, and group 2 (69 patients) included patients who were readmitted, early (≤30 days after surgery) or late (31–90 days after surgery).

Univariable associations between baseline characteristics and outcome measurements were statistically assessed using Fisher exact test for categorical responses and Wilcoxon Rank-Sum test for continuous responses. Multiple logistic regression models were fit to evaluate preoperative, operative, and postoperative predictors of readmission. All statistical analysis was performed using SAS software (version 9.3, SAS Institute Inc., Cary, NC). All tests were two-side, with statistical significance defined as $P < .05$.

RESULTS

Both groups were comparable in age, gender, ASA score, preoperative serum creatinine, prior abdominal surgeries, smoking history, preoperative chemotherapy, and radiotherapy. There was statistically significant difference in the mean BMI between both group 1 and group 2 (28.4 and 30.1 kg/m^2, respectively; $P = .026$).

Furthermore, there was no statistically significant difference in LOS, estimated blood loss, intraoperative transfusion, pathologic tumor stage, positive surgical margins, lymph node yield, positive lymph nodes, and type and location of diversion between both the groups. Significant difference was observed in the mean length of ICU stay between group 1 and group 2 (1.5 and 1.9 days, respectively; $P = .006$).

Regarding postoperative outcomes, mean follow-up time for group 1 and 2 was 20.8 and 15.3 months, respectively. Clavien grade 1–2 complication rate was statistically higher for group 2 (87% vs 61.1%, $P = .001$); meanwhile, there was no significant difference in Clavien grade 3–5 complication rate between the groups.

Sixty-nine patients (25.5%) were readmitted within 90 days, of which 42 patients (60.9%) had early readmission, and 27 patients (39.1%) had late readmission. The most common cause of readmission in early and late periods was related to infections (pyelonephritis, urinary tract infection [UTI], and septicemia; Table 2).

In the early readmission period, 2 patients returned to the operating room for appendicitis and adhesive small bowel obstruction. Percutaneous procedures were performed for 4 patients (1 for ureteroenteric anastomosis leak and 3 pelvic fluid collections). In the late readmission period, 2 patients returned to the operating room, both for ureteric stricture. One patient had antegrade balloon dilatation, and the other patient had excision of ischemic ureteral segment and reimplantation. Two patients had percutaneous procedure for pelvic fluid collection and ureterocutaneous fistula (Table 3).

The overall 30- and 90-day mortality was 0.7% and 4.8%, respectively; however, higher mortality for the readmitted group (7.2%) was noted. Septic shock and cardiogenic events were the most common causes of 30-and 90-day deaths.

On univariable analysis, significant association was observed between the 90-day readmission and total operative time ($P = .034$) and obesity ($P = .033$). Clavien grade 1–2 complications statistically correlated with readmission ($P = .046$); meanwhile, higher grade complications did not. On multivariate analysis, BMI ($P = .004$) and female gender ($P = .014$) were independent predictors of 90-days readmission (Table 4).

COMMENT

Although surgery-related events that might require further interventions can strongly affect the outcomes of surgery, very few reports address the readmission after RC, in both open and robot-assisted population. Stimson et al[14] in 2010 examined the relationship between clinical variables and readmission rates during the early 30-day and late 90-day postoperative periods, including the mortality and perioperative morbidity rates for 753 patients who underwent RC. They reported 19.7% and 10.8% on early 30-day and late 31–90–day readmission rates, respectively. These remain slightly higher than our rates (15.4% and 9.9%) for the same periods. Moreover, Shabsigh et al[3] reported overall readmission of 26% in their study to identify early postoperative morbidities after 1142 consecutive RCs using a standardized reporting methodology. However, in our study, we also addressed the need for any surgical or radiological interventions during readmission.

Surgery-related complications are a major cause of postoperative hospital readmission. Our overall 90-day complication rate was 69.8%, and not surprisingly, patients who were readmitted had higher complication rate (88.4%), compared with patient who were not (63.6%); however, most of these complications were low grade (Clavien 1–2). Recent reports have revealed higher complication rate than that previously reported rates. Shabsigh et al reported 64% 90-day complication rate, and Yuh et al[15] reported 80% 90-day complication rate after RARC. Using standardized systemic methodology to report complication attributed to higher complication rate in recent studies.[16] In the present study, we reported 1.7% and 4.8% mortality rate at 30- and 90-day, respectively. Similar to our finding, 30-day mortality rate was reported 1.7% by Lowrance et al in contemporary open

RC series and 2% by Shabsigh et al.[3,4] Ninety-day mortality has not been reported by Ng et al[5] in patients who underwent RARC when compared with open RC who had 5.8% mortality. However, this difference could be related to a selection bias, which was not the case in our series, as all our cystectomies were performed with robot assistance.

In a recent study by Jacobs et al[17] evaluating hospitalization trends after RC, using Surveillance, Epidemiology and End Results Medicare data from 1992 to 2005, LOS decreased from an average of 15.4 days in 1992–1993, to 12.1 days in 2004–2005, representing a relative reduction of 21%. Meanwhile, hospital readmission within 30 days remained stable at 25.2%. Skilled nursing/intermediate care use increased from 8.2% to 18.9% after RC.[17] On the basis of published data from abdominopelvic surgery, patients who were discharged to an institutional care facility had 4 times higher mortality.[18] Our findings compared favorably with these results, whereas the mean LOS was 11.0 days, and the skilled nursing/intermediate care use was 10%, our 90-day readmission rate was 25.5%.

UTI-related complication was the most common cause of readmission in our cohort, which is similar to other published series,[14,19] which highlights the infectious component of RC and urinary diversion. Future studies should be directed toward prophylactic antibiotic policies, preoperative bowel preparation, types of ureteroenteric anastomosis, and other possible predisposing factors. Urinary diversion plays a significant role for readmission and number of complications (infection, bowel obstruction, renal impairment, and metabolic derangements). Gore et al[20] reported 31% 90-day readmission rate after urinary diversion, using Medicare data for 1565 patients who underwent urinary diversion for benign and malignant indications.

The primary aim of our study was to identify predictors for readmission after RARC, which to our knowledge has never been published. It is important to understand and report the efficacy of the RARC and compare it with the open approach, considered the “gold standard”. Most importantly, identification of such variables would help in preoperative patient counseling. Our study found significant associations between obesity, BMI, overall operative time, and total complications with 90-day readmission. Only female gender and BMI were found to be independent predictors of 90-day readmission. Reyes et al[21] reported an increase of incidence of UTI, pyelonephritis, and wound infection in patients with higher BMI; meanwhile, the functional outcomes were similar across various ranges. Similarly, Kouba et al[22] found more stomal complications after RC and ileal conduit diversion in obese patients. In contrary, Poch et al[23] reported that RARC and intracorporeal ileal conduit were feasible for overweight and obese patients compared with patients with normal BMI; however, longer follow-up was needed to confirm that finding.

Female gender is associated with lower incidence but higher mortality of bladder cancer.[24] Socioeconomic factors and difference in tumor biology are possible contributing factors. Various studies revealed that women are more likely to be unmarried, thus less likely to have family support.[25] In addition, Pruthi et al[26] evaluated the impact of marital status on demographic, perioperative, and pathologic outcomes for patients undergoing RC. They found that those patients who were married appeared to have improved preoperative laboratory variables, shorter hospitalization, and improved pathologic outcomes.

The economic impact of readmissions plays a significant role in determining the final cost of surgery. Taking this into consideration, Konety and Allareddy[27] reported that surgery-related complications after RC greatly impacts the cost, explaining that each additional complication resulted in a 35% increase of the original cost. Comparing the cost of open RC vs RARC, Yu et al[28] reported that RARC costs are greater than open RC costs, despite less complications, less need for parenteral nutrition, and less mortality associated with RARC; however, the study lacked information about outpatient complications and readmissions, which made it inconclusive. In contrast, Martin et al[29] reported that RARC was associated with a 38% cost reduction than open RC. When taking into account the total hospitalization costs, including readmissions during 30 days of surgery, this improved to a savings of 60%, in favor of RARC. Similarly, Lee et al[30] evaluated and compared the economic burden of open RC vs RARC. It was reported that RARC had shorter LOS, in addition to complications-related costs. The study suggested that RARC could be more cost efficient than open RC at a high-volume referral center. Therefore, it is crucial to evaluate the immediate 90-day postoperative period when comparing cost effectiveness of any procedure.

Our study reflects the experience of a single surgeon, high-volume tertiary referral center, a main limitation to our study. Readmission policy might vary between centers and this might affect readmission rates, emphasizing the need for standardizing the reporting of outcomes. Patients identified as higher risk for readmission are appropriately counseled and strictly monitored postoperatively. A dedicated plan of follow-up using regular phone calls, home visits, and/or earlier clinic visits with prompt intervention is in place, and our future work will address the effectiveness of this strategy.

CONCLUSION

Readmission within 90 days of RARC is common; identification of female gender and BMI as independent predictors of readmission might help provide a new management plan for perioperative care and follow-up schedule to avoid unplanned readmission. Reporting of outcomes at 90 days helps report thorough outcomes, which benefit in proper counseling of patients undergoing RC.

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Table 1

Description of preoperative, pathologic, and perioperative variables

Preoperative Characteristics	**Readmission No.**	**Readmission Yes**	**Total**	***P* Value**
Overall	203 (74.5%)	69 (25.5%)	272 (100%)	
Age, y				
Mean/SE	69/0.7	69/1.3	69/0.6	.87
Median, range	69 (36–90)	71 (38–86)	70 (36–90)	
Sex, n (%)				
Male	157 (77%)	47 (68%)	204 (75%)	.15
BMI, kg/m^2				
Mean/SE	28.4/0.4	30.1/0.7	28.9/0.3	.03
Obese (>30), n (%)	69 (35%)	32 (46%)	101 (38%)	.09
ASA score ≥3, n (%)	93 (46%)	34 (49%)	126 (47%)	.68
Prior abdominal surgery, n (%)	112 (55%)	45 (65%)	157 (58%)	.16
Preoperative chemotherapy, n (%)	21 (10%)	3 (4%)	24 (9%)	.34
Preoperative radiation, n (%)	5 (3%)		5 (2%)	.56
Creatinine	1.2/0.0	1.1/0.1	1.2/0.0	.47
Smoking	159 (80%)	54 (81%)	213 (80%)	.000
Follow-up (mo)				
Mean/SE	20.7/1.3	15.3/1.8	19.4/1.1	.05
Median, range	15 (2–71.6)	11 (1.2–73)	14 (0.2–73)	
Pathologic outcomes				
Pathologic tumor stage ≤T2, n (%)	101 (52%)	35 (52%)	136 (52%)	1.000
Pathologic tumor stage >T2, n (%)	94 (48%)	32 (48%)	126 (48%)	
Soft tissue margin positive, n (%)	15 (7.4%)	3 (4%)	18 (7%)	.58
Lymph node yield				
Mean/SE	24/0.8	22/1.4	23/0.7	.28
Lymph node positive, n (%)	49 (24%)	18 (26%)	67 (25%)	.75
Perioperative outcomes				
Estimated blood loss (mL)				
Mean/SE	489/33.3	485/50.6	487/27.9	.89
Median, range	400,20–3900	350,0.0–2500	400,0.0–3900	
Overall operative time (min)				
Mean/SE	365.0/6.7	400.5/14.6	373.9/6.3	.052
Median (range)	361 (0.0–698)	391 (182–827)	369 (0.0–827)	
Intraoperative transfusion, n (%)	30 (15%)	7 (10%)	37 (14%)	.42
Diversion type, n (%)				
Ilea conduit	187 (92%)	61 (88%)	248 (91%)	.34
Others	16 (8%)	8 (12%)	24 (9%)	
Diversion location, n (%)				
Intracorporeal	88 (43%)	37 (54%)	125 (46%)	.46
Extracorporeal	112 (55.2%)	32 (46.4%)	144 (52.9%)	

Preoperative Characteristics	**Readmission No.**	**Readmission Yes**	**Total**	***P* Value**
ICU stay, d				
Mean/SE	1.5/0.2	1.9/0.3	1.6/0.2	.006
Median, range	1.0 (0.0–26)	1 (0.0–11)	1 (0.0–26)	
Hospital stay, d				
Mean/SE	11.0/0.6	11.2/1.0	11.0/0.5	.37
Median, range	8 (4–50)	9 (4–58)	8 (4–58)	
Complications (%)				
Clavien 1–2	53	70	58	<.001
Clavien 3–5	17	24	19	
Discharge				
Home	179 (90%)	59 (88%)	238 (90%)	.66
Health care facility	19 (10%)	8 (12%)	27 (10%)	
Death within 30 d	2 (1.0%)		2 (0.7%)	.326
Death within 90 d	8 (3.9%)	5 (7.2%)	13 (4.8%)	

ASA, American Society of Anesthesiologists; BMI, body mass; ICU, intensive care unit; SE, standard error.

Table 2

The causes for readmission in the early and late postoperative periods

Reason for Readmission	Within 30 d of Discharge (n = 42)	Reoperation/ interventional Radiology (n)	31–90 d After Discharge (n = 28)	Reoperation/interventional Radiology (n)
Pyelonephritis	7 (16.7%)		7 (25%)	
Sepsis, bacteremia	8 (19%)		1 (3.5%)	
Ileus	3 (7.1%)	0	0	0
Small bowel obstruction	3 (7.1)	1	4 (14.2%)	0
Ureteric stricture	0		2 (7%)	2
Thromboembolic events	3 (7.1)		2 (7%)	
Respiratory (pneumonia, shortness of breath)	2 (4.7%)		0	
Pelvic abscess	3 (7.1%)	3	1 (3.5%)	1
Acute renal failure, electrolytes disturbances	4 (9.5%)		2 (7%)	
Diarrhea	3 (7.1%)		2 (7%)	
Wound complications	1 (2.3%)	1	0	
Urine leak, urinary fistula	1 (2.3%)	1	1 (3.5%)	1
Myocardial infarction	1 (2.3%)		0	
Hypoglycemia	3 (7.1%)		0	
Dehydration	3 (7.1%)		2	
Others (inflamed appendix, abdominal pain of unknown cause)	2 (2.3)	1	3 (10.7%)	0

Table 3

Univariable and multivariable logistic regression analysis to evaluate variables associated with 30-d readmission

	Outcome	
	30-d Readmission	
Variables Analyzed	**Odds Ratio (95% CI)**	***P* Value**
(A) Preoperative variables – univariable analysis		
Sex (female vs male)	1.74 (0.85–3.56)	.13
Age at surgery (10 y interval)	1.11 (0.8–1.54)	.54
BMI (kg/m^2)	1.12 (1.05–1.18)	.0002
Obese (BMI >30 kg/m^2, yes/no)	3.47 (1.52–7.92)	.0031
Preoperative chemotherapy (yes/no)	1.09 (0.39–3.05)	.86
Current smoker (yes/no)	0.64 (0.29–1.41)	.27
ASA 3–4 vs 1–2	1.56 (0.79–3.05)	.19
Creatinine >2 vs <2	2.41 (0.45–12.99)	.31
(B) Preoperative variables – multivariable analysis		
Sex (male vs female)	1.73 (0.77–3.85)	.18
Age at surgery (10 y interval)	1.23 (0.83–1.83)	.30
BMI (kg/m^2)	1.12 (1.05–1.19)	.004
Current smoker (yes/no)	0.81 (0.33–1.96)	.64
ASA (1–2 vs 3–4)	1.08 (0.50–2.36)	.84
Preoperative chemotherapy (yes/no)	1.14 (0.39–3.37)	.81
(C) Intraoperative variables – univariable analysis		
Operating room time ≤6 h vs >6 h	1.0 (0.51–1.96)	.99
Estimated blood loss ≤800 mL vs <800 mL	0.92 (0.36–2.34)	.85
Transfusion (yes/no)	0.52 (0.06–4.17)	.54
Type of urinary diversion (continent vs conduit)	1.22 (0.39–3.83)	.73
Location of diversion (intra- vs extracorporeal)	1.62 (0.83–3.16)	.16
(D) Intraoperative variables – multivariable analysis		
Operating room time ≤6 h vs >6 h	1.06 (0.52–2.17)	.86
Estimated blood loss ≤800 mL vs <800 mL	1.14 (0.42–3.11)	.80
Transfusion (yes/no)	0.39 (0.04–3.37)	.39
Type of urinary diversion (continent vs conduit)	1.86 (0.92–3.76)	.08
(E) Postoperative variables – univariable analysis		
Hospital stay <10 d vs ≥10 d	0.87 (0.43–1.75)	.69
ICU stay	1.04 (0.91–1.18)	.52
Complication before discharge yes vs no	1.42 (0.54–3.71)	.48
Clavien 0 vs 3–5	0.09 (0.01–0.76)	.03
Clavien 3–5 vs Clavien 1–2	1.43 (0.61–3.35)	.41
(F) Postoperative variables – multivariable analysis		
Hospital stay <10 d vs ≥10 d	0.57 (0.26–1.25)	.16
ICU stay	1.04 (0.90–1.20)	.61

	Outcome	
	30-d Readmission	
Variables Analyzed	**Odds Ratio (95% CI)**	***P* Value**
Clavien 1–2 vs 3–5	1.41 (0.58–3.42)	.95

Abbreviations as in Tables 1 and 2.

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Table 4

Univariable and multivariable logistic regression analysis to evaluate variables associated with 90-day readmission

	Outcome	
	90-d Readmission	
Variables Analyzed	**Odds Ratio (95% CI)**	***P* Value**
(A) Preoperative variables – univariable analysis		
Sex (female vs male)	1.60 (0.87–2.94)	.13
Age at surgery (10 y interval)	1.00 (0.78–1.31)	.95
BMI (kg/m^2)	1.10 (1.00–1.10)	.047
Obese (BMI >30 kg/m^2, yes/no)	2.25 (1.10–4.80)	.03
Preoperative chemotherapy (yes/no)	0.38 (0.11–1.33)	.13
Current smoker (yes/no)	0.97 (0.48–1.97)	.94
ASA 3–4 vs1–2	1.17 (0.68–2.10)	.56
Creatinine	2.50 (0.54–11.54)	.24
(B) Preoperative variables – multivariable analysis		
Sex (male vs female)	0.41 (0.20–0.83)	.014
Age at surgery (10 y interval)	1.10 (0.97–1.04)	.67
BMI (kg/m^2)	1.10 (1.0–1.17)	.004
Current smoker (yes/no)	1.28 (0.55–3.00)	.56
ASA (1–2 vs 3–4)	0.80 (0.30–1.62)	.52
Creatinine >2 vs <2	3.00 (0.63–14.80)	.17
Preoperative chemotherapy y (y/n)	0.40 (0.08–1.73)	.21
(C) Intraoperative variables – univariable analysis		
Operating room time ≤6 h vs >6 h	1.0 (1.001–1.006)	.036
Estimated blood loss ≤800 mL vs <800 mL	0.92 (0.42–1.98)	.83
Transfusion (yes/no)	0.64 (0.27–1.52)	.31
Type of urinary diversion (continent vs conduit)	1.88 (0.74–4.74)	.18
Location of diversion (intra- vs extracorporeal)	1.5 (0.86–2.80)	.15
(D) Intraoperative variables – multivariable analysis		
Operating room time ≤6 h vs >6 h	1.40 (0.78–2.51)	.26
Estimated blood loss ≤800 mL vs <800 mL	1.10 (0.46–2.60)	.85
Transfusion (yes/no)	0.60 (0.21–1.57)	.28
Type of urinary diversion (continent vs conduit)	0.43 (0.08–2.30)	.32
Location of diversion (intra vs extracorporeal)	0.43 (0.08–2.30)	.20
(E) Postoperative variables – univariable analysis		
Hospital stay <10 d vs ≥10 d	1.00 (0.97–1.04)	.75
ICU stay	1.50 (0.88–2.70)	.13
Complication before discharge Yes vs no	1.50 (0.64–3.25)	.37
Clavien 1–2 vs 0	4.4 (2.00–9.78)	.046
Clavien 3–5 vs Clavien 1–2	0.42 (0.05–3.65)	.43
(F) Postoperative variables – multivariable analysis		

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	Outcome	
	90-d Readmission	
Variables Analyzed	**Odds Ratio (95% CI)**	***P* Value**
Hospital stay <10 d vs ≥10 d	1.03 (0.55–2.00)	.93
ICU stay	1.03 (0.92–1.14)	.59
Complication before discharge No complication vs Clavien 3–5	1.14 (0.10–12.58)	.10
Clavien 1–2 vs 3–5	2.93 (0.31–28.20)	
Any type of complications (yes/no)	8.14 (0.94–70.20)	.06

CI, confidence interval; other abbreviations as in Table 1.