

OUTCOME OF RADICAL CYSTECTOMY IN REMOTE AREA OF PAKISTAN RECEP TAYYIP ERDOGAN HOSPITAL MUZAFFARGARH (IHHN)

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ABSTRACT

Background: Radical cystectomy with bilateral pelvic lymphadenectomy is the standard treatment for high-grade/muscle-invasive urinary bladder tumors. Continent or incontinent urinary diversion is part of this major operation. High-volume centers perform routinely, but low-volume centers do less frequently. It might be because of the availability of equipment and trained surgeons in remote areas of Pakistan.

Objectives: to assess the results of radical cystectomy at a low-volume center for high-grade muscle-invasive bladder tumors. For patients aged 50 to 75, this involves evaluating surgical complications, overall survival, and the absence of tumor recurrence throughout a one-year follow-up period.

Study Design: A Retrospective Study

Duration and place of study: Department of Urology Recep Tayyip Endogen Hospital Muzaffargarh, from October 2018 to August 2022

Methods: Out of both genders and 50 to 75 years old with grade/ Muscle invasive urinary bladder carcinoma, incomplete resection during TURBT due to high volume of mass (irresistible) included. Performa is designed for the collection of information. All the patients underwent the same Procedure by the same urologist. Patients were followed for one year after surgery.

Results: All participants were followed for one year. 33.3% of patients had paralytic ileus (CDC I), 13.3% had wound infection(CDC I), and 6.7% had urinary leakage (CDC IIIb). There was an overall survival rate of 86.6%. 6.7% were lost to follow-up. The mean operative time was 308 ±95 minutes. No recurrence was noted throughout the study period.

Conclusion: Good operative results can also be achieved at low-volume centers. A high level of surveillance and expertise helps to achieve better outcomes in remote settings.

Keywords: cystectomy, radical cystectomy, bladder tumor, ideal conduit

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INTRODUCTION

Bladder cancer is the second most common genitourinary malignancy with transitional cells. Our study was to determine the outcome in terms of surgical carcinoma (TCC), comprising nearly 90% of all primary bladder tumors. (1- 3) Worldwide, bladder cancer (BC) is the 11th most commonly diagnosed cancer (4, 5). 75% of patients with BC present with disease confined to the mucosa, submucosa superficial, or carcinoma in situ (stage Ta, T1, or Tcis). In younger patients (< 40 years), this percentage is higher. Indications of radical cystectomy are patients with tumors from stage T2 to T4, surgically fit and willing for urinary diversion. It is the standard treatment for localized MIBC. Muscle-invasive bladder cancer and continent urinary diversion (like ileal conduit) are the favored options for most patients (6-12). Radical systems are not being performed in remote areas—the aim of Complications and hospital stay. The results of this study will provide evidence that this major surgery can be performed in remote areas.

MATERIAL & METHODS

This retrospective study was conducted in Recep Tayyip Erdogan Hospital, Muzaffargarh, from October 2018 to August 2022. Approval was taken from the Institutional review board of IHHN. Cases from both genders and 50 to 75 years old with high grades which are refractory to BCG/ Muscle invasive urinary bladder carcinoma included. Preoperative investigations included ultrasound of kidney ureter bladder (KUB), CT/MRI with I/V contrast, Preop and postop hemoglobin level, Urine culture, and sensitivity. Bowel prepared with Tab. Bisacodyl 5mg, four tablets ± Kleen enema stat 24 hours before surgery. All patients kept nil per oral for 06 hours. Before that, patients were on a liquid diet for 24 hours. All the surgeries are done by the same urologist under the general anesthesia. Postoperative specimen biopsy with several lymph nodes evaluated. Hospital stay, operative time, recurrence, and complication were the primary

Outcomes of this study. Patients are shifted to the ward or HDU immediately after surgery. According to the patient's condition, oral feed is allowed after 24 hours postoperatively. Patients were followed postoperatively for one year. Data analysis was carried out using SPSS 26. Quantitative variables were age, operative time, and hospital stay, measured in mean (\pm SD). Qualitative variables, including postoperative complication, gender, resound kidney ureter bladder (imaging), and CT/MRI, were reported in frequency and percentages.

ETHICAL APPROVAL STATEMENT

This study was conducted in accordance with ethical guidelines and received ethical clearance from the Ethics Review Board (ERB-740/09/2022) under the supervision of Corresponding Author Kumail Sajjad at the Department of Urology, Recep Tayyip Erdogan Hospital, Muzaffargarh. Approval was obtained prior to the commencement of the study to ensure compliance with both institutional and international standards for human subject research. Informed consent was obtained from all participants before their inclusion in the study.

RESULTS

15 patients underwent radical cystectomy with ileal conduit with a follow-up duration of one year. The majority of them were male 12(80%). Their mean age was 59 ± 14 years. According to clinical staging based on radiologic investigation and histopathology, 33.3% of patients were on cT1 high-grade refractory to BCG and T2 each, followed by T3a 2(13.3%) and T4 2(13.3%) and only one patient was on T3b stage 1(6.7%). The mean preoperative hemoglobin was 11 ± 1 mg/dL. All the patient's bowels were prepared before surgery (Table 1). Among all who underwent the same surgical Procedure, radical cystectomy with ileal conduit and bilateral pelvic lymphadenectomy. 11 (73.3%) patients lost < 1000ml of their blood during surgery, as reported by the anesthetist in prop notes. While, 8 (53.3%) patients required blood transfusion. Mean postop Hb was 10 ± 1 mg/dl, Preop creatinine was 1 ± 0 mg/dl, and postop creatinine was 1 ± 1 mg/dl. The mean operative time

is 308 ± 95 minutes, and the length of the hospital stay (LOS) was 14 ± 7 days. Remarkably, half of the patients had no complications 7 (46.7%), while only one patient had urinary leakage 1 (6.7%), wound infection in 2 (13.3%), and paralytic ileus in 5 (33.3%) patients. All the study participants followed for one year after surgery. One patient died during this year due to hospital-acquired infection. One patient lost follow-up during the study period. On specimen histopathology, 11 (73%) out of 15 had transitional cell carcinoma (TCC), 2 (13.4%) had squamous cell carcinoma (SCC), and 2 (13.4%) had adenocarcinoma. Fisher exact test was applied to check the association of variables. It was also noted that no significant association was found between postoperative complications and other variables.

Table 1 Characteristics of study participants

Parameter	Details
Gender	Male: 12 (80%)
Female: 3 (20%)	
Age	59 ± 14 years
Indication of Surgery	T1 High Grade: 5 (33.3%)
T2: 5 (33.3%)	
T3a: 2 (13.3%)	
T3b: 1 (6.7%)	
T4: 2 (13.3%)	
Preoperative Hemoglobin	11 ± 1 mg/dL
Bowel Preparation	15 (100%)
Surgical Procedure	Radical cystectomy with ideal conduit: 15 (100%)

Table 2 Postoperative characteristics of study participants

Hemoglobin	10 ± 1 mg/dl
Creatinine	1 ± 1 mg/dl
Operative time	308 ± 95 minutes
NPO break	2 ± 1 days
Complications	
Urinary leakage (CDC Ib)	1 (6.7%)
Wound infection (CDC)(I)	2 (13.3%)
Paralytic ileus (CDC)	5 (33.3%)
Hospital Stay	10 ± 7 days
One year survival	13 (86.6%)
Died	1 (6.7%)
Lost follow-up	1 (6.7%)
Recurrence in 1 year	0

***CDC- Clavien Dindo Classification System**

DISCUSSION:

High-grade bladder tumor with or without muscle invasion is the concern of treatment. Radical cystectomy is the gold standard treatment but is offered in less number of centers in the country. Our study evaluated the results of a single center in a remote area. Patients included in this study were equal in age and gender distribution as in other studies conducted in Pakistan. High-grade bladder tumor patients with any clinical stage are counseled for radical cystectomy. Preop investigations ensured the patient's fitness and clinical stage of the disease. Pathological staging was also done. Hemoglobin of all participants was 11 ± 1 mg/dL preoperatively (1,5,13). Postoperative clinical outcomes of our study are comparable despite a single effort by an individual urologist working in a remote area. Preoperative hemoglobin is related to perioperative.

Complications. There was a mean 1 mg/dl drop in hemoglobin in patients, which was the same as in other studies (14,15). The operative time of radical cystectomy was equal to Vlad et al., but Nunzio et al., done in less time (15,16). Complications were classified according to the Clavien Dindo classification system. 46.6% of complications were from class I, which is greater, but on the other side, class III complications were 6.7%. No one observed in class IV and V. Length of hospital stay was more than few studies. Our complication rate was less than in other studies. (5,17,18,19). The one-year survival rate was 86.6% in our study, while Coughlin et al. noted 83%. Studies state high volume centers have fewer complications (20). The results of our low-volume center are comparable with high-volume centers. Progression and muscle invasion are effectively treated with radical cystectomy.

LIMITATIONS

The research was performed within a single low-volume center which hinders general applicability of its results with large high-volume institutions. The results may not demonstrate robustness because there was both a small study population and a risk of selection bias. The short duration of one year follow-up seems inadequate for achieving thorough assessment of long-term outcomes and assessing recurrence rates.

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CONCLUSION

Our study finding that low-volume centers A high level of surveillance and expertise helps to achieve better outcomes in remote.

FUTURE DIRECTIONS

Large-scale studies involving multiple hospital centers must develop to prove these research results across various clinical practice settings. The analysis of patient results requires more advanced surgical techniques together with better recovery protocols and lengthened follow-up periods to yield better understanding of outcome improvement strategies. Strategies combining telemedicine with remote monitoring technologies aim to develop better postoperative care strategies for low-resource areas and locations that are distant from medical facilities.

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Authors Contribution

Concept & Design of Study: Mazhar Ali

Drafting: Muhammad Naqash

Data Analysis: Kumail Sajjad

Critical Review: Kumail Sajjad

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