Original Article

Radical Cystectomy

# Determine the Outcome of Radical Cystectomy in the Management of Muscle Invasive Bladder Tumor

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## ABSTRACT

**Objectives:** To determine the outcome of radical cystectomy in the management of muscle invasive bladder tumor.
**Study Design:** Observational / descriptive study
**Place and Duration of Study:** This study was conducted at the Urology Wards 14, Liaquat University Hospital, Jamshoro from March 2007 to February 2009.
**Materials and Methods:** 25 cases were studies through data collected by performa filled by each case separately. Base line Investigations like CBC, Urine DR, Blood Urea, Serum Creatinine, Serum Electrolytes, LFT, Clotting profile, serum total protein AG ration, Hepatitis B and C with Specific Investigations such as Ultrasound abdomen & pelvis, Contras CT abdomen Pelvis. Cystoscopy & biopsy under GA, Start irrigation by 7 days twice daily by 30 cc N/S till discharge. Ascending pouchogram for suspicious cases by 19 day. Remove of urethral catheter by 20$^{th}$ day. After discharge patient call for follow up. Post-operative was observing postoperative complication like survival, leakage, sepsis and bleeding.
**Results:** In the present study predominantly 25 male patients with mean age of 70 ± 10 having 07 patients were died within 24 hrs. After surgery, 05 patients have postoperative bleeding and 02 patients have anatomotic leakage..
**Conclusion:** The study concludes that more cases are required for justification of radical cystectomy in muscle invasive locally advance bladder tumor..
**Key Words:** Radical Cystectomy, Ileal Conduit, Management, Muscle Invasive, Bladder Tumor.

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## INTRODUCTION

Bladder cancer is a heterogeneous disease; Muscle invasive (T2) bladder tumor usually needs a more truculent treatment options. The standard and most effective treatment is radical cystectomy and urinary diversion. Bladder carcinoma mostly involved advance age people, yet many treatment strategies restrict entry to patient who is under seventy, but the age might increase upto eighty if extensive radical cystectomy is an option of treatment. The importance of lymph node dissection in association with extensive radical cyectomy is well accepted and there is more local control and survival after extended lymph node dissection. After this extensive surgery the urine should be diverted by means of using the different gastrointestinal segments which still dependent on their original blood supply but transected to make a reservoir for urinary diversion.[1]

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Ileal conduit diversion is the most commonly performed procedure used for the urinary diversion. The ilieal reservoir receive urine from its proximal part via newly ureteric re-anastomosis and urine drain continuously on its distal end to a externally placed urostomy bag outside the abdomen which can be emptied later on regular intervals by patients him or herself or by nursing care staff. Catheterizable continent reservoir for instance, Indiana pouch is one of a type of neobladder formation where the distal end of the reservoir instead of anastomosis with native urethra, open separately by means of cathetrizable stoma outside the abdomen wall through which an intermittent catheter insertion. This technique is specially performed for those patients who are unfit for orthotropic substitution due to the higher risk or positive frozen section biopsy of the native urethra.

## MATERIALS AND METHODS

This descriptive study was conducted on 25 cases at Urology wards 14 Liaquat University Hospital. The data was collected by performa filled by each case separately. Both male and female patients with muscle invasive Ca. bladder, less than 70 years age were included. 80% patients had W pouch (mansoura pouch) and 20% had Ileal conduit. Patients with superficial Ca, Bladder, extensive metastasis, patients above 70 Years age and previously operated for pelvic surgery were not included.

**Data Collection Procedure:** Performa was be filled for each case separately. Patients diagnosed a urinary bladder growth were admitted in ward – 14 LUMHS, Jamshoro from OPD and referred from other centers. Base line Investigations like CBC, Urine DR, Blood Urea, Serum Creatinine, Serum Electrolytes, LFT, Clotting profile, serum total protein AG ration, Hepatitis B and C with Specific Investigations such as Ultrasound abdomen & pelvis, Contrast CT abdomen Pelvis were performed. Cystoscopy & biopsy were done under general anaesthesia, after surgery 30 cc N/S irrigation was started by day 7 postoperatively, twice daily till discharge. Ascending pouchogram was performed for suspicious cases by 19 day. urethral catheter was removed by 20$^{th}$ day. Patients were followed up for postoperative complications like survival, leakage, sepsis and bleeding.

**Data Analysis Procedure:** All the data was entered and analyzed using SPSS version 17. Descriptive statistics was used to summarize the categorical variables like gender, post-operative complication like bleeding, leakage of anatomsis and death reported as frequencies and percentages whereas age presented as Mean±S.D. Stratification was done by age , gender and post-operative complications.

# RESULTS

According to inclusion criteria mentioned above, the study comprises total of 25 patients. All patients were male. The average mean age of the patients was 59.9 ± 10. The 40% patients were at the age of 59 to 64 and the patient between 65 to 70 years was 60% .After surgery 7 patients were died within 24 hrs. After surgery and remaining 18 patients survive with minor or major complications which were successfully deal during and after post-operative care period.

# DISCUSSION

Radical cystectomy procedure is a big undertaking but currently a choice of managing the patients with muscle-invasive (T2) bladder carcinoma.[1] It is an extensive and major abdominal surgery involving the simultaneous manipulation of genitourinary tract, gastrointestinal segments and all related lymph nodes so the procedure related complications occur most frequently during and after this extensive abdominal surgery. Most current statistics shows that the incidence of these iatrogenic complications ranges from 19% to 64%[2,3]. There is substantial variability in the mortality figures reported in the most recent urological investigations approximately between 1 to 8%[4,5]. Post-operative mortality occur within a month upto 33% of cases, while the same figures of mortality can occur between period of one to two month. Statistics of another population based research demonstrated the one, two and three month duration mortality rate of upto 1%,2.5% and 4 % respectively.[6,7] Moreover, figures of a single city hospitals in USA, revealed significantly lower mortality rates in the facilities where > 10 cystectomies were performed each year[8]. Even with higher numbers of radical cystectomies, there still seems to be a relationship between hospital volume and postoperative mortality. To evaluate the impact of procedure volume, another study by using the data obtained from the University HealthSystem Consortium Clinical Database, which comprises > 6000 cystectomies performed at academic centres[9].The results revealed lower in-hospital mortality rates at centers that annually performed > 50 cystectomies compared with those that handled 26–50 such cases each year. In addition to the number of procedure performed including the overall surgical units related factors that have been suggested to affect the mortality also include the number of surgeons[7,10] as well as the number of registered surgical nurses to the patients [8] . One study demonstrated that the number of other urological and oncological procedures which perform at the same time can directly influence on hospital volume and mortality after radical cystectomy[11]. Recently performed larger set patients volume also demonstrated that the risk of postoperative mortality after 3 month of radical cystectomy can also be affected by the other important factors that is patient age, volume of tumor and its histological grading[6,12,13]. There is an emergent need of publishing standardized statistics on surgical complications after radical cystectomy.[14,15] Published data on 2538 cases by Hollenbeck et al shows that upto 30.5% of the patients had one complication at least within a month of follow-up after radical cystectomy[16]. Clavien approach to classify the surgical complications was initially exists in late 1990s specially for the application in organ transplantation surgeries [17], and then it was restrain in year 2004[18] and currently becomes the standardized approach for reporting and assessment of complications and quality of life in all types of surgeries including radical cystectomies.[3,19]. During this extensive abdominal surgery there is an average blood loses between 560 ml to 3000 ml[20-21], indicating moderate to considerable blood transfusion may require which may further effects in transfusion related complications and increases mean cost on hospital specially for this procedure[13,22].It is also recommended that by supplementation of epidural anesthesia along with general anesthesia might reduce the requirement of blood transfusion during surgery[23]. Additionally, it has been suggested that current proficient surgical apparatus such as bipolar device system and by using harmonic scalpel can be beneficial[24].Another randomized statistics shows that, stapling apparatus can minimize the blood loss and reduces the need of blood transfusions[25]. There is an alarming postoperative complication soon after radical cystectomy which includes leakage of intestinal anastomosis and extravasation of urine. Data of another

prospective study shows that insertion of stent during the procedure was found in reduction of urinary anastomose leakage[26]. In other study there is comparatively decrease rate of extravasation connected with radical cystectomy, so as likely it is not always essential to carry out routine urography and stenography in those patients with normal postoperative period[27,28]. Another randomized study observed postoperative ileus in upto 18% in those patients who were managed with multimodality treatment options including epidural analgesia, encouraged early central nourishment through jejunal placed cannula, removal of nasogastric tube earlier and sufficient preparation of bowel before the surgery[29]. Nonrandomized comparative data shows that, bubble gum chewing was found to reduce the time of bowel motility after radical cystectomy[30]. There is a reduction in the risk of post radical cystectomy atelectasis shown in those patients with early removal of nasogastric tube along with metoclopramide support[31].

It is also recommended now for thromboprophylaxis remedy after every major abdominal and pelvic cancer surgery for a period upto one month with low dose heparin which is also cost effective[32]. Primary wound dehiscence in the early postoperative period accounts 15% of all early complications of radical cystectomy[3]. Several elements might influence the risk of wound dehiscence including surgical technique. One of them is a ratio of suture to wound length, which was demonstrate in a prospective clinical trial study to cause wound dehiscence in 0.7% cases[33]. There is significant reduce in the risk of wound dehiscence associated with the interrupted technique of wound closure during laparotomy as compared to continuous technique but figures regarding the risk of hernia remains same in comparative randomized studies[34]. Study shows the significant importance with regard to lymph node dissection specially with this extensive surgery, encouraging a view to use more extended lymph node dissection with radical cystectomy[35, 36]. Moreover with regard to fecal leakage and urgency there is less data available to justify adverse events of rectal dysfunction post radical cystectomy. Selection of patient is extremely very important part of any extensive surgery as like radical cystectomy because it can help to assess in preventing from complications and morbidity to a minimum level.[37] Advancing age has also been linked with increase complication rates in other series. [13].

# CONCLUSION

The radical cystectomy is considered has the gold standard treatment for muscle invasive bladder cancer especially in fit patients when comparing it with chemo-radiotherapy in unfit patients or those who wish to repressive their bladder. In our country the patients usually present late and although begin recognized as uncommon tumor our experience clearly shows that it is a common neoplastic condition when compared with prostate cancer, being considered the commonest tumors in men in the developed world. Radical cystectomy and urinary diversion is being performed in very few centers of Pakistan. In the present study clearly shows if performed in patients with strict criteria it can be lifesaving.

**Conflict of Interest:** The study has no conflict of interest to declare by any author.

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