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An Analysis Of Morbidity And Mortality Following Radical Cystectomy In The Treatment Of Invasive Bladder Cancer

KEYWORDS: transurethral resection of bladder tumor, muscle invasive bladder cancer, radical cystectomy, morbidity and mortality.

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ABSTRACT ***Aim's & Objectives:*** *To analyse morbidity and mortality in patients with muscle invasive bladder cancer after radical cystectomy.*

Patients and Methods: *A total of 46 patients who underwent radical cystectomy between April 2010 to August 2015 at Nizam's Institute Of Medical Sciences – Hyderabad were included in this retrospective study. Data regarding tumor stage before surgery was retrieved from data base. Tumor staged using the Tumors-Node-Metastasis classification system. Radical cystectomy was done for histologically proven muscle invasive cases on transurethral resection of bladder tumor. Mean followup period is 31 months. Patients were divided into node-positive and node negative groups and analysed to assess the survival.*

Results: *Among 46 patients included in our study mean age is 60±5 years. 36.9% of patients presented with early complications like wound dehiscence(19.5%), pelvic collection (13%) and burst abdomen (4.3%). During follow-up with mean follow up period of 31 months distant metastasis was noted in 8.6% of patients, 4.3% with pelvic recurrence and 2.1% with ureteric stricture. Survival in node-negative group was 80% and in node-positive group was 52%.*

Conclusion: *Radical cystectomy remains the main stay of treatment in muscle-invasive bladder cancer. Complications and survival are better with bladder confined disease compared to non organ confined disease. This is relatively safe procedure with minimal morbidity and mortality in selected patients.*

INTRODUCTION

Radical cystectomy with pelvic lymph node dissection (PLND) is the standard treatment for muscle-invasive bladder cancer. This procedure was popularized initially by Whitmore and Marshall[1]. Improved surgical techniques, anaesthesia care and postoperative management has lowered the high complication and mortality rates previously associated with this operation [2,3].

The highest incidence of transitional cell carcinoma is in the 7 th decade. Around 20-40 percent of transitional cell carcinomas consist of a muscle invasion, initially or in progress - radical cystectomy with urinary diversion remains the standard treatment. Unrecognized distant metastases resulting in decreased survival occur in almost half of patients with high-grade tumours who undergo cystectomy [2,4]. However, radical cystectomy remains the most effective method for local control of muscle-invasive bladder cancer. Radical cystectomy provides excellent local control of the primary tumor and should include the bladder and surrounding perivesical soft tissue, prostate, and seminal vesicles in men and the ovaries, uterus/cervix, and anterior vagina in women. In sexually active women, vaginal preservation and/or reconstruction must be discussed and planned preoperatively. Most of the patients have tumor characteristics that would be considered high risk for disease progression, and many have previously undergone multiple failed attempts at bladder preservation, providing ample justification for exenterative surgery.

It entails simultaneous surgery on urinary tract, intestines and lymphnodes; hence, complications frequently occur after this extensive procedure. In the present study we reviewed our institute experience with this operation and analysed the results.

PATIENTS AND METHODS:

After receiving ethics committee approval, data was collected from retrospective reviews from our hospital records and by contact with patients. Total number of patients who underwent radical cystectomy between April 2010 to August 2015 were 60. 14 patients lost followup. Remaining 46 cases were included in the study. Metastatic status was evaluated before surgery and tumors staged using the Tumors-Node-Metastasis classification. Radical cyste-ctomy is done for histologically proven muscle invasive cases. Followup period is two to sixty months(mean followup is 31 months). Patients were divivded into node-positive and node negative groups and analysed to assess the survival. In followup patients were evaluated by means of physical examination, abdominal ultraso-nography, laboratory parameters, urine culture, and chest X- ray.

RESULTS:

Among 46 patients included in our study mean age is 60±5 years (Table 1). 19.5% of patients presented with early complications like wound dehiscence as most common complication followed by pelvic collection (13%) and burst abdomen (4.3%) respectively as shown in Table 2. During follow-up with mean follow up of 31 months distant metastasis was noted in 8.6% of patients, 4.3% with pelvic recurrence and 2.1% with ureteric stricture (Table 3). Pelvic lymphnode involvement was seen in sixteen patients(35%). In remaining 30 patients pelvic lymph node involvement was not seen(Table 4). All the patients with PLN involvement received adjuvant chemotherapy. Survival in node-negative group was 80% and in node-positive group was 52% (Table 5) . Overall survival was significantly related to lymph node status. Higher rate of recurrence and worse overall survival is seen with lymphnode positivity.

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DISCUSSION:

Radical cystectomy and PLND has become the principal treatment for muscle -invasive bladder cancer. It is the gold standard for local control and survival of muscle invasive tumors. The aim of the procedure is to remove all cancer in the bladder, pelvis, and regional lymph nodes with a wide soft tissue margin. The plane of dissection is the musculoskeletal boundaries of the pelvis. With the improvement in surgical technique and post operative care survival is improved and complications has come down.

In most large series perioperative mortality of radical cystectomy is 2-5%. In our study it is nil. In studies by Srinivas V et al[2] reoperation rate is 2-10%. In our study it is 4.3%. In studies conducted by Gschwend JE et al[3] Complication rate is 25-30%. In our study it is 38% [2,3].

Burst abdomen is seen in one patient, in study conducted by K.Gaitonde et al[5]. In our study it is seen in two patients. One patient developed ureteric stricture and it was managed by percutaneous nephrostomy, balloon dilatation and antegrade stenting. Most of the complications were managed conservatively and only two patients required reoperation. Pelvic recurrence is seen in two patients (4.3%). Similar results i.e.(4.7%) were seen in study conducted by K.Gaitonde et al[5]. In our study lymph node positivity is seen in sixteen patients i.e.35%. But in study conducted by K.Gaitonde et al [5] lymph node positivity is seen in 20%. Survival in lymph node positive patients is 52% and in lymph node patients it is 80%.

Radical cystectomy is a relatively safe procedure when performed meticulously and in organ confined disease.

CONCLUSION

Radical cystectomy remains the main stay of treatment in muscle-invasive bladder cancer. Complications and survival are better with bladder confined disease compared to non organ confined disease. This is relatively safe procedure with minimal morbidity and mortality in selected patients.

Tables

Table 1: Age distribution of patients.

Sl.no	Age in years	No. of patients	Percentage(%)
1.	40-49	9	19
2.	50-59	11	24
3.	60-70	26	57
4.	Total	46	100

Table 1 shows the age distribution of patients. Number of patients between age 40 and 49 is nine. Eleven patients are present between 50 and 59. Number of patients between 60 and 70 is twenty six.

Table 2 :early complications.

Sl.no	Complication	Number(n)	Percentage(%)
1.	Wound dehiscence	9	19.5%
2.	Pelvic collection	6	13%
3.	Burst abdomen	2	4.3%

Table 2: This is the table showing number of patients with early postoperative complications. Wound dehiscence is seen in nine patients i.e. in 19.5% of patients. Pelvic collection is seen in six patients i.e.13% of the patients. Burst abdomen is seen in two patients.

Table 3 : late complications.

Sl.no	complication	Number	Percentage(%)
1.	Ureteric stricture	1	2.17
2.	Local recurrence	2	4.3
3.	Distant metastasis	4	8.6

Table 3: shows the late complications. Ureteric stricture is seen in one patient. local recurrence and distant recurrences seen in two and four patients respectively.

Table 4 : lymph node status

Sl.no	LN status	No. of patients	Percentage (%)
1.	LN positive	16	35%
2.	LN negative	30	65%

Table 4: shows the lymph node positivity in sixteen patients i.e.thirty five percent and lymph node negative in thirty patients i.e.sixty percent.

Table 5 : survival

Sl.no	LN status	Survival in percentage
1.	LN positive	52%
2.	LN negative	80%

Table 5: shows that fifty two percent survival in lymph node positive patients and eighty percent survival in lymph node negative patients.

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