

Radical Cystectomies at the University Teaching Hospital, Lusaka: Baseline Characteristics, Short-term Complications, and Role of Nursing Care

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Abstract

Bladder cancer is the ninth most common cancer in the world and the 11th most common cancer in Zambia. Bladder cancer is of three histological types, Squamous cell cancer, Transitional cell cancer, and Adenocarcinoma. The most common histological type in Zambia is Squamous cell cancer accounting for 60 percent of cases of muscle-invasive bladder cancer. The treatment of muscle-invasive bladder cancer is radical cystectomy, Lymph node dissection, and urinary diversion. Globally, radical cystectomy is associated with high morbidity and mortality. The most common diversion used was uretero-sigmoidostomy, accounting for 60 percent of cases. In our case series, the most common complications were wound dehiscence, hypo-proteinemia, bowel ileus, deep vein thrombosis, and electrolyte imbalance. Identification and prevention of complications associated with this procedure play a crucial role in improving survival for these patients. The role of nursing staff in the early recognition of these complications cannot be overemphasized.

Keywords: *Bladder cancer, Radical cystectomy, urinary diversion.*

Introduction

Bladder cancer is the ninth most common cancer in the world and the 11th most common cancer in Zambia [1, 2]. Bladder cancer is of three histological types, Squamous cell cancer (SCC), Transitional cell cancer (TCC), and Adenocarcinoma (AC) [3]. The most common in Zambia is Squamous cell cancer accounting for 60 percent of cases of muscle-invasive bladder cancer [3]. The treatment of muscle-invasive bladder cancer is radical cystectomy, Lymph node dissection, and urinary diversion [4]. Globally, radical cystectomy is associated with high morbidity and mortality, and prevention and identification of complications play a key role in improving survival for these patients. This case series aimed to outline the baseline characteristics of the patients who underwent radical cystectomy, document the types of diversions used, determine the short-term complications associated with this procedure.

Materials and Methods

Our case series consisted of 5 cases done from January to November 2020 at the University Teaching Hospital. All cases were confirmed for bladder cancer by histology. CT scan was done to stage the patient as per Tumour, Node, and Metastasis (TNM) classification. All patients who presented with metastatic disease during this period were excluded from this study. All five patients included in this case series were operated on by the same urology unit. The procedure involved radical cystectomy, pelvic lymph node dissection, and urinary diversion.

In males, radical cystectomy involved removal of the bladder, prostate, seminal vesicles, distal ureter, and prostatic urethra. In females, this involved removal of ovaries, fallopian tubes, uterus, anterior vagina, distal ureter, and bladder.

Lymph-node dissection involved removal of the pelvic lymph nodes cranially up to the

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bifurcation of the iliac vessels, laterally by the Genito-femoral nerve, medially by the obliterated umbilical artery, caudally by the medial circumflex iliac vein, and inferiorly by the obturator nerve.

A urinary diversion was made, and the methods used included uretero-cutaneostomy, ileal conduit, and uretero-sigmoidostomy.

All patients recruited in this study were followed for a period of 1 week, and all complications developed during this period were documented.

Results

The results shown in Table 1 below found that the majority of the patients were above 60 years, female, and had invasive Squamous cell cancer. Eighty percent of the patients in our case series presented with clinical stage T3 and above.

Table 2 shows that the most common diversions used were uretero-cutaneostomy (40 percent) and ureterosigmoidostomy (40 percent), followed by the ileal conduit.

The most common complications were deep vein thrombosis and bowel ileus, which occurred in 60 percent of outpatients, followed by bowel ileus and hypo proteinemia, which occurred in 40 percent of our patients. Electrolyte abnormalities were found to occur in 20 percent of the patients who underwent radical cystectomy.

Discussion

Globally, radical cystectomy is associated with high morbidity and mortality. Due to the high number of bladder cancer cases in our setting, documenting the baseline characteristics and complications associated with this procedure and comparing our findings with existing literature is critical in improving our understanding of this condition.

In our study, most of the patients were 60 years and older consistent with other studies in the literature, which found a similar age range [1]. All the patients in our case series had squamous cell cancer of the bladder. This is

consistent with previous studies which recorded similar findings [3]. This can be explained by the high prevalence of schistosomiasis in our setting, which is a risk factor for Bladder cancer [5].

The T stage of most patients (80 percent) was T3 and beyond, which showed muscle-invasive bladder cancer, with all being squamous cell cancer. This is consistent with a study [5] that showed that the most common histological subtype in our setting was Squamous cell cancer and that the most common T stage of patients presenting with SCC was T3 to T4.

At our institution, the most common diversion used was uretero-sigmoidostomy (60 percent of cases). This conflicts with other studies where the orthotopic bladder and ileal conduit were the most common diversions used [6]. This could be explained by surgeon preference.

The most common complications in our study were deep vein thrombosis, wound dehiscence, hypoproteinaemia, bowel ileus, deep vein thrombosis and electrolyte imbalance. Other studies done in similar settings have documented similar findings [7]. As many as two-thirds of patients may experience a complication during the first 90 days after surgery, up to 20% of these being high grade [8].

According to studies, prolonged ileus can be seen in approximately 20 percent of cases is lower than our study, which found 60 percent [9]. Risk factors for postoperative thromboembolic events include the presence of malignancy and older age which is also consistent with our findings [10].

Most of these complications can be identified early or prevented through close monitoring by health staff of vital signs such as blood pressure, pulse rate, oxygen saturation, respiratory rate, and temperature.

The main limitation of the case series was the short period of follow-up as the primary focus was the short-term complications. Thus, complications that occurred outside the one-week period of follow-up were not documented.

Conclusion

Globally, radical cystectomy is associated with high morbidity and mortality. Despite this, this procedure plays a vital role in the control of muscle-invasive bladder cancer. The quick identification and prevention of complications are critical to the successful recovery of these patients. The routine use of anticoagulants, early mobilization, nutritional support, and regular monitoring of electrolyte levels can play a crucial role in reducing the morbidity and mortality associated with this condition. The role of nursing in the identification and monitoring of these patients cannot be overemphasized.

Figures and Tables

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Declaration of Conflicting Interest

The Author declares that there is no conflict of interest.

Table 1. Baseline Characteristics of Patients undergoing Radical Cystectomy

Characteristics	Sub-item	Number (N)	Proportion (%)
Sex	Male	2	40
	Female	3	60
Age	< 50 years	0	0
	50 to 60 years	1	20
	>60 years	4	80
Histological subtype	SCC	5	100
	TCC	0	0
	AC	0	0
T stage	T2	1	20
	T3	2	40
	T4	2	40

Table 2. Type of Urinary Diversions Used

Type of diversion	Number (N)	Proportion (%)
Uretero-cutaneostomy	2	40
Uretero-sigmoidostomy	2	40
Ileal conduit (Bricker conduit)	1	20

Table 3. Short Term Complications of Radical Cystectomy Patients

Complication	Number	Total number of patients (N)	Proportion (%)
Deep vein Thrombosis	3	5	60
Bowel Ileus	3	5	60
Wound dehiscence	2	5	60
Hypo-proteinemia	2	5	60
Electrolyte Imbalance	1	5	60

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