

**BLADDER CANCER A TEN-YEAR EXPERIENCE IN MAIDUGURI NORTH EASTERN NIGERIA**

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**ABSTRAT:**

**BACKGROUND:** Bladder cancer is one of the commonest urological malignancies worldwide with increasing incidence in regains with high exposure to carcinogens and schistosomiasis. This study reviewed all bladder cancer patients managed over a ten-year period in the UMTH. **PATIENTS AND METHODS:** The study reviewed all patients with bladder cancer managed in the University of Maiduguri Teaching Hospital (UMTH) over ten-years. Emergency presentations were resuscitated using intravenous fluids, antibiotics, and blood transfusion where necessary. All patients were clinically staged using Marshall's staging. Post operative chemotherapy and radiotherapy were done at other centres for those that can afford. **RESULTS:** A total of 144 patients were analyzed, age ranged between 29 – 87years with a mean of 54.9 years and peak age group of 40 – 49 accounting for 27.78%, with a male to female ratio of 2.43 : 1. The main presenting features were Haematuria in all patients, and weight loss in 63.19%. Complications at presentation were anemia in 54.86%, and impaired renal function in 39.58%. The Marshall's clinical staging of the patients' disease were **stage 1**, 9.03%, **stage 2**, 18.75%, **stage 3** 52.08%, and **stage 4**, 20.14%. The histology revealed squamous cell carcinoma in 63.89%, and transitional cell carcinoma in 30.56%. Associated schistosomiasis in 41.67%. The procedures done were ureterosigmoidostomy in 27.78%, and biopsy only due to advanced disease in 20.83%. The postoperative complications were metabolic acidosis in 27.08%, and ascending urinary tract infection in 18.75%. The mortalities were 3.47%. The follow up ranged from 3months to 4years. The mortality in the first year of follow up was 33.33%. **CONCLUSION:** Bladder cancer is fairly common in this environment as a result of schistosomiasis and patient usually present late with complications.

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## INTRODUCTION

Bladder cancer represent a global health problem, it ranks 9<sup>th</sup> in the worldwide cancer incidence. It is the 4<sup>th</sup> commonest cancer in men and the 12<sup>th</sup> in women in the USA<sup>1</sup>. In Egypt bladder cancer is the most prevalent cancer accounting for 31% of all cancers<sup>2</sup>. The exact etiology of bladder cancer is still unknown. Several risk factors have been accused as being involved in its pathogenesis such as cigarette smoking, schistosomiasis, chronic cystitis, pelvic irradiation, genetic predisposition and some occupations<sup>3</sup>. Traditionally Haematuria, Suprapubic pain and mass and constitutional symptoms of weight loss, anorexia, and ascending upper urinary tract infection are the common presenting features. Globally transitional cell carcinoma (TCC) of the bladder is the commonest; however in areas of endemic schistosomiasis squamous cell carcinoma (SCC) predominates. The squamous cell carcinoma of the bladder presents in patients who are on average 10 to 20 years younger than those with transitional cell carcinoma<sup>4</sup>. Although SCC of the bladder often present at a locally advanced stage, the tumours are usually well differentiated with relatively low incidence of lymphatic and hematogenous metastases, unfortunately many patients in Africa still present with advanced and inoperable bladder cancer, and many do not have access to healthcare facilities that can provide a cure and a good quality life by means of radical cystectomy and neobladder construction<sup>4</sup>. This study aimed at reviewing presentation, histological pattern and challenges in the management, and outcome.

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## **PATIENTS AND METHODS**

The study reviewed all patients with bladder cancer managed in the University of Maiduguri Teaching Hospital (UMTH) between January 2003 to December 2012. Permission for the study was granted by the Hospital research and ethics committee. All patients gave written informed consent. Information was extracted from clinical and laboratory notes and data analyzed using SPSS version 16. Emergency presentations were resuscitated using intravenous fluids, antibiotics, and blood transfusion where necessary. The diagnosis was made based on clinical presentations and laboratory investigations. Investigations done were full blood count, urinalysis, blood chemistry, abdominopelvic ultrasound scan, and chest x-ray. Others were urine cytology, cystoscopy and biopsy, Computerized Tomography and Magnetic Resonance Imaging. All patients were clinically staged using Marshall's staging. Post operative chemo and radiotherapy were done at other centres for those that can afford.

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## RESULTS:

A total of 157 patients were studied, 13 were discarded for incomplete data and 144 analyzed, age ranged between 29 – 87years with a mean of 54.9 years and peak age group of 40 – 49 accounting for 40(27.78%) **table 1**, with a male to female ratio of 2.43 : 1. The main presenting features were Haematuria in all patients, and weight loss in 91(63.19%) **table2**. Complications at presentation were anemia in 79(54.86%), impaired renal function in 57(39.58%), urinary retention in 33(22.92%), UTI in 27(18.75%). Others were urosepsis in 7(4.86%), intestinal obstruction in 5(3.47%), and vesicocutaneous fistula in 3(2.08%). The Marshall's clinical staging of the disease were **stage 1**, 13(9.03%), **stage 2**, 27(18.75%), **stage 3** 75(52.08%), and **stage 4**, 29(20.14%) of which only 6(6.52%) were SCC. The histology revealed squamous cell carcinoma in 92(63.89%), Transitional cell carcinoma in 44(30.56%), poorly differentiated carcinoma in 5(3.47%), and Adenocarcinoma in 3 (2.08%). Other findings associated with the pathology were schistosomiasis in 60(41.67%) of which 53(88.33%) were in SCC and 7(11.67%) were TCC, stone disease in 11(7.64%), and chronic cystitis in 3(2.08%). The procedures done were ureterosigmoidostomy in 40(27.78%) **table3**. The postoperative complication were metabolic acidosis in 28(19.44%), ascending urinary tract infection in 27(18.75%), diarrhea in 21 (14.58%), surgical site infection in 11(7.64%), and renal failure in 7(4.86%). There were 5(3.47%) mortalities. The follow up ranged from 3months to 4years. Forty- eight (33.33%) died within one year of follow up.

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## DISCUSSION

The study found the mean age at diagnosis for bladder cancer was 54.9 years, in variance with similar study from Senegal that considered urinary bladder cancer as a disease of young age with the mean at diagnosis being 45.5 years<sup>5</sup>. Bladder cancer is generally more common in males than females this study found similar trend with male to female ratio of 2.43: 1 this can be explained by more men work in agricultural fields than women and such agricultural fields are endemic zones for schistosomiasis, and also exposed them to pesticides and other carcinogens. The clinical features of Hematuria Suprapubic pain and mass and constitutional symptoms of anorexia and weight loss in this study were in keeping with traditional features of bladder cancer<sup>6</sup>. The Complications of bladder cancer at presentation as found in this study were anemia that necessitated blood transfusion in 54.86%, impaired renal function in 39.58%, and urinary retention among others, which are all features of late presentation of bladder cancer in developing world. These features were uncommon in developed countries where patients present early and diagnoses made with high resolution imaging<sup>7</sup>. Bladder cancer is 6 times more common in developed countries than in developing countries with 90%-95%<sup>8-9</sup>. In the current study SCC (63.89%) were more common than TCC (30.56%), reflecting a different etiology in this setting. Transitional cell carcinoma has been associated with chemicals such as aniline dye, aromatic amines, and arsenic which are not readily found in the study area. Squamous cell carcinoma has also been linked to other causes other than schistosomiasis such as chronic cystitis associated with bladder stones, chronic indwelling catheters and spinal cord injury, however this type of SCC tend to occur in older age group and is more aggressive<sup>10-11</sup>. Squamous cell carcinoma whether related to schistosomiasis or not, has been reported to be of distinct clinicopathological features with high tendency of bladder wall muscle invasion, and advanced stages with lower incidence of pelvic nodes and distant metastases than TCC<sup>12</sup>. This study found similar trend despite, SCC constituting 63.89% only 6.52% presented with distant metastases. Adenocarcinoma constituted 2.08% which did not differ from what was reported in the literature<sup>13</sup>. Biopsy only was done in 20.83% as such patients were inoperable while 5.56% had urinary diversion with tumour insitu due to non respectability. Seventy percent had cystectomy and various urinary diversions. These complications were in keeping with complications associated with cystectomy and urinary diversion reported by other authours<sup>14-17</sup>. The acidosis responded to oral bicarbonate, while diarrhea was managed intravenous fluids, cholestyramine and loperamide. Follow up period of 4 years was short compared to similar studies with a longer follow up period<sup>18-19</sup>.

## CONCLUSION

Bladder cancer is fairly common in north-eastern Nigeria, with muscle invasive SCC predominating, as opposed to TCC globally, due to endemicity of schistosomiasis in the region. Most patients present with advanced disease associated with complications as a result of poor socioeconomic status and lack of access to healthcare facilities. Public health programs to eradicate schistosomiasis, screening for early detection in all patients with Hematuria will go along way decreasing the incidence of bladder cancer.

**TABLE 1:** Age Distribution

Age in years	No	%
20-29	02	01.39
30-39	10	06.94
40-49	40	27.78
50-59	26	18.06
60-69	38	26.39
70-79	20	13.89
80 +	08	05.56
Total	144	100.00

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**Table 2: Clinical Features**

Features	No	%
Hematuria	144	100.00
Anemia	108	75.00
Suprapubic mass	107	74.31
Necroturia	93	64.58
Weight loss/Anorexia	91	63.19
Suprapubic/pelvic pain	71	49.31
Fever/vomiting	63	43.75
Leg/facial edema	28	19.44

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**Table 3:** Procedures done

Procedure	No	%
Cystectomy + ureterosigmoidostomy	40	27.78
Biopsy only	30	20.83
Partial cystectomy	28	19.44
Cystectomy + ileal conduit	18	12.50
Cystectomy + Continent catheterizable pouch	18	12.50
Caecal Bladder	02	01.39
Diversion with tumour in situ *	08	05.56
Total	144	100.00

NB \* Ureterosigmoidostomy, and Cutaneous ureterostomy, 4(02.78%) each.

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