Histological Pattern of Bladder Cancer at the Lagos State University Teaching Hospital, Ikeja

Omisanjo OA, Adebayo OO, Akinola OO, Ikuerowo SO and Ojewuyi OO

Department of Surgery, Lagos State University College of Medicine and Teaching Hospital (LASUCOM/ LASUTH), Ikeja, Lagos, Nigeria.

ABSTRACT

Background: Bladder cancer is the second most common cancer of the genitourinary tract and the ninth most common cancer worldwide. It accounts for 7% of new cancer cases in men and 2% of new cancer cases in women. There are varied reports locally regarding the most common histological type of bladder cancer in Nigeria.

Aim: The aim of the study was to review the pattern of presentation and histological types of bladder tumours at the Lagos State University Teaching Hospital Ikeja.

Patients and Method: This was a retrospective study in which the clinical records of all patients who presented with bladder tumours to the Lagos State University Teaching Hospital Ikeja over a 5 year period (January 2013 to December 2017) were retrieved and analyzed.

Results: The records of 32 patients were available for review. There were 19 (59.4%) males and 13 (40.6%) females, reflecting a male preponderance. All the patients had a cystoscopy and biopsy of bladder mass done under conscious sedation. The mean age was 56.75 ± 3.16 years and the median age was 59.50 years (range 14 – 84 years). The most common presenting symptom was haematuria in 29 patients (90.6%). Other presenting symptoms were irritative lower urinary tract symptoms in 27 patients (84.4%), necroturia in 7 patients (21.9%), back pain in 8 patients (25%) and weight loss in 13 patients (40.6%) at initial presentation. Most of the patients (n=25, 78.1%) had an abdominopelvic ultrasound done, out of which 20 patients (80%) had a demonstrable mass. A CT Scan was also done in 23 patients (71.9%). Possible risk factors identified were wading in streams in 4 patients (12.5%), cigarette smoking in 3 patients (9.4%) and exposure to petrochemicals in 1 patient (3.1%). Associated comorbidities documented were hypertension in 12 patients (37.5%) and diabetes mellitus in 3 patients (9.4%). The most common histological type of bladder tumour was papillary urothelial carcinoma in 23 patients (71.8%), with about half of these (n=12, 52.2 %) being high-grade tumours.

Conclusion: Papillary urothelial carcinoma is the most common histological type of bladder cancer presenting at the Lagos State University Teaching Hospital Ikeja with more males being diagnosed than females.

Keywords: *Bladder cancer, urothelial carcinoma, squamous cell carcinoma*

Corresponding author: **Dr. Olufunmilade A. OMISANJO**, Department of Surgery, Lagos State University College of Medicine and Teaching Hospital (LASUCOM/LASUTH), Ikeja, Lagos. Nigeria. Email: sanjofunmi@yahoo.com; Tel: +2348066406584

INTRODUCTION

Bladder cancer is reported as the second most common cancer of the genitourinary tract.[1] It is the ninth most frequently diagnosed cancer worldwide according to recent GLOBOCAN figures, with the highest incidence rates observed in men in Southern and Western Europe, North America, as well as in certain Northern African and Western Asian countries.[2] It is the fourth most common cancer in males after prostate, lung and colorectal cancers, accounting for 6.6% of all cancer cases, and it is the eleventh most common cancer in women.[3]

Bladder cancer accounts for 7% of new cancer cases in men and 2% of new cancer cases in women.[4] The incidence rates are consistently lower in women than men, although the sex difference varies greatly between countries.[2] Cigarette smoking has been identified as a major risk factor for developing bladder cancer and this association has been examined by several groups.[5] The risks of bladder cancer appear to vary across world regions, correlating with smoking and occupational exposures to carcinogens in developed countries, and with chronic bladder urothelial irritation from *Schistosoma haematobium* infection in Africa and the Middle East.[6]

Reports from different parts of Nigeria have highlighted different patterns in the histological types of bladder tumours. Most studies from the northern part of Nigeria report a higher incidence of squamous cell carcinoma than transitional cell carcinoma. In Kano, Northern Nigeria, squamous cell carcinoma was reported as the most frequent type of bladder cancer about two decades ago. However, a more recent study 2 years ago in the same centre revealed that squamous cell carcinoma has been replaced by urothelial carcinoma as the most common histologic type of bladder cancer.[7] A recent study from University College Hospital, Ibadan has also shown a change in the distribution of urothelial cancer and squamous cell carcinoma between patients diagnosed four decades ago and now, with squamous cell carcinoma becoming less common than what was previously described in an earlier study between 1963 – 1973.[8]

In view of these recent changes in the pattern of bladder tumours, we set out to study the histological pattern of bladder tumours in patients presenting at the Lagos State University Teaching Hospital Ikeja.

PATIENTS AND METHODS

This was a retrospective study in which the clinical records of all patients who presented with bladder tumour to the Lagos State University Teaching Hospital Ikeja over a 5 year period (January 2013 to December 2017) were retrieved and analyzed.

Data retrieved were patients' age, the presenting symptoms, radiological investigations, presence of possible risk factor for bladder cancer, comorbidity and the histological type of bladder tumour.

Data entry and analysis were done with Statistical Package for Social Sciences (SPSS) version 20.0 for Windows. The data expression was mainly with means and range.

RESULTS

The records of 32 patients were available for review. There were 19 (59.4%) males and 13 (40.6%) females with a male: female ratio of 1.5: 1. All the patients had cystoscopy and biopsy of bladder mass done under conscious sedation. The mean age was 56.75 ± 3.16 years and the median age was 59.50 years (range 14 – 84 years). The most common presenting symptom was haematuria in 29 patients (90.6%). (Table 1) Other presenting symptoms were irritative lower urinary tract symptoms in 27 patients (84.4%), necroturia in 7 patients (21.9%), back pain in 8 patients (25%) and weight loss in 13 patients (40.6%) at initial presentation.

Table 1: Presenting Symptoms

Symptom	Frequency	Percentage (%)
Haematuria	29	90.6
Lower Urinary Tract Symptoms	27	84.4
Abdominal Pain	26	81.3
Necroturia	7	21.9
Suprapubic Swelling	5	15.6
Back Pain	8	25.0
Weight Loss	13	40.6

Most of the patients (n=25, 78.1%) had an abdominopelvic ultrasound done, out of which 20 patients (80%) had a demonstrable mass. A CT Scan was also done in 23 patients (71.9%). Possible risk

Table 2: Possible risk factor for bladder tumour

Risk Factor	Frequency	Percentage (%)
Wading/Swimming in streams	4	12.5
Smoking	3	9.4
Exposure to petrochemicals	1	3.1
No identifiable risk factor	24	75.0
Total	**32**	**100.0**

factors for bladder tumour were identified in a total of 8 patients (25%) and these were wading in streams in 4 patients (12.5%), cigarette smoking in 3 patients (9.4%) and exposure to petrochemicals in 1 patient (3.1%). (Table 2).

Associated comorbidities documented were hypertension in 12 patients (37.5%) and diabetes mellitus in 3 patients (9.4%). The histology of the bladder tumour is as shown in Table 3, the most common histological type of bladder tumour being papillary urothelial carcinoma in 23 patients (71.8%),

Table 3: Histological Type of Bladder Tumour

Histology of Bladder Tumour	Frequency	Percentage (%)
Papillary Urothelial Carcinoma	23	71.8
Squamous Cell Carcinoma	3	9.4
Cystitis Cystica Glandularis	3	9.4
Chronic Non-specific Inflammation	3	9.4
Total	**32**	**100.0**

with about half of these (n=12, 52.2%) being high-grade tumours.

DISCUSSION

Our study population of 32 patients over a 5 year period is less than the figures of 327 patients over 15 years and 190 patients over 10 years reported by Sule et al and Sahabi et al respectively in two different centres in the northern parts of Nigeria. [7, 9.] The figure we reported is however quite similar to those earlier documented by workers from the southern parts of the country. Forae et al reported 75 cases of bladder lesions over 10 years in Benin while Isiwele et al reported 9 cases over 10 years in Calabar.[10, 11.] Anunobi et al in an earlier study in Lagos a decade ago had concluded that bladder cancer was not common in Lagos after they reported 39 cases of bladder tumours over a 15 year period. [12] Our present report will also support this finding of a relatively lower incidence of bladder tumours in Lagos compared to other parts of the country. There is the need for population-based studies to confirm this finding with a view to ascertaining what the plausible reasons for this difference in incidence might be.

The most common presentation at the sixth decade of life with a male preponderance that we have reported is similar to those of earlier reports in Nigeria. [7, 9, 10, 12.] Previously documented risk factors for bladder cancer have included smoking, occupational exposure to carcinogens and chronic bladder irritation from schistosomiasis. [5, 6.] We were able to identify a possible risk factor in only a quarter of our patients. Exposure to wading through streams which is regarded as a risk factor for schistosomiasis and possible squamous cell bladder carcinoma in developing countries was not prominent in our patients.

Over 80% of our patients had haematuria and irritative lower urinary tract symptoms. Most middle-aged males in our environment with lower urinary tract symptoms tend to be treated for prostatic enlargement sometimes with a minimal evaluation due to financial constraints that may limit further investigations. The presence of gross haematuria especially in male patients with irritative lower urinary tract symptoms should alert the managing physician to the possible presence of a bladder tumour and such patients should be considered for a cystoscopy with a view to detecting the bladder cancer early. This may help prevent the late presentation and/or diagnosis of bladder cancer which tend to be the norm in our environment with also half of our study population already having clinical evidence suggestive of metastatic disease at presentation.

We found urothelial carcinoma to be the most common histological type of bladder cancer in our centre. This is consistent with the current trend of urothelial carcinoma being reported as the most common histopathological type of bladder cancer in most Nigerian centres as against the squamous cell carcinoma that was reported as being the most common histotype in Nigeria decades ago. [13, 14] The

only centre that has recently reported squamous cell carcinoma as the most common histotype of bladder tumour is from the north-western part of the country. [9] This is probably a reflection of the different levels of control of schistosomiasis in the various parts of the country.

CONCLUSION

Papillary urothelial carcinoma is the most common histological type of bladder cancer presenting in Lagos with more males being diagnosed than females.

REFERENCES

1. Sanjeev S, Pankaj K, Poonam S. Diagnosis and Treatment of Bladder Cancer. Am Fam Physician. 2009 Oct 1;80(7):717-723.
2. Antoni S, Ferlay J, Soerjomataram I, Znaor A, Jemal A, Bray F. Bladder cancer incidence and mortality: a global overview and recent trends. European Urology 71 (1), 96-108, 2017
3. Kamat AM, Bagcioglu M, Huri E. What is new in non-muscle-invasive bladder cancer in 2016? Turk J Urol. 2017; 43(1):9-13. doi: 10.5152/tud.2017.60376
4. Badrinath R; Peter R. (2013). "Urothelial carcinoma: Cancers of the Bladder, Ureter, & Renal Pelvis. In McAninch J; Lue T. Smith & Tanagho's General Urology; (18th ed) (p 310). McGraw-Hill Companies Inc. USA.
5. Brennan P, Bogillot O, Cordier S et al. Cigarette smoking and bladder cancer in men: A pooled analysis of 11 case-control studies. Int. J. Cancer. 2000;86, 289-294
6. Adeloye D, Harhay MO, Ayepola OO, Dos Santos JP, David RA, Ogunlana OO, Gadanya M. et al. Estimate of the incidence of bladder cancer in Africa: A Systematic Review and Bayesian meta-analysis. Int J Urol. 2019; 26(1):102-112. doi:10.1111/iju.13824.
7. Sule AA, Ochicha O, Ibrahim Y, Adam S, Abubakar A, Haruna MS. Update on bladder cancer in Kano, Northern Nigeria. Niger J Basic Clin Sci 2017;14:26-9.
8. Takure AO, Odubanjo MO, Adebayo SA, Oluwasola O, Shittu OB, Okeke LI, Fadimu OA, Olapade-Olaopa EO. Histopathologic pattern of bladder cancers in Ibadan Southwest Nigeria: an update. J West Afr Coll Surg. 2015 Apr-Jun; 5(2): 17-42
9. Sahabi SM, Abdullahi K. Urinary bladder cancer in Sokoto, Northwestern Nigeria: A 10-year histopathological review [abstract]. In: Proceedings of the American Association for Cancer Research Annual Meeting 2018; 2018 Apr 14-18; Chicago, IL. Philadelphia (PA): AACR; Cancer Res 2018;78(13 Suppl): Abstract nr 1212
10. Forae GD, Ugiagbe EE, Mekoma DF. A descriptive study of bladder tumours in Benin City, Nigeria: An analysis of histopathological patterns. Saudi Surg J 2016;4:113-7
11. Isiwele EM, Bassey IE, Ikpi EE, Enakirerhi GE, Otobo FO, Essiet A, Ekwere PD. Histopathologic Patterns of Urological Malignancies in Calabar, South-Southern Nigeria: A Ten-Year Review. Journal of Cancer and Tumor International. 2018;8(1), 1-10.
12. Anunobi CC, Banjo AA, Abdulkareem FB, Daramola AO, Akinde OR, Elesha SO. Bladder cancer in Lagos: a 15-year histopathologic review. Niger Postgrad Med J. 2010 Mar;17(1):40-4.
13. Attah EB, Nkposong EO. Schistosomiasis and carcinoma of the bladder: a critical appraisal of a causal relationship. Trop Geogr Med. 1976;28:268.
14. Ochicha O, Alhassan S, Mohammed AZ, Edino ST, Nwokedi EE. Bladder cancer in Kano- a histopathological review. West Afr J Med. 2003;22(3):202–204.