

Original Research Article

Review of urological cancers in Damaturu, Nigeria

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ABSTRACT

Background: Urological cancers (UC) remain a major global burden and a significant cause of high morbidity and mortality. In order to plan and tackle this burden, there is need to audit the pattern of these malignancies in our locality which is currently lacking. Hence, the objectives of our study were to describe the histological pattern, frequency and demographic characteristics of urological cancers seen in Damaturu.

Methods: The reports of all the urological specimens that were histologically diagnosed as malignant between November 2017 to October 2019 in the histopathology department of Yobe state university teaching hospital, were analyzed. The department keeps newly established cancer registry for the state.

Results: Fifty-five UC were diagnosed, with male to female ratio of 13.8:1. These UC constitute 34.1% of the 161 urological specimens assessed and 26.4% of all types of medical cancers diagnosed in the period of study. Prostate cancer dominates the UC (41; 73.8%), followed by bladder cancers (11; 19.8%) and the remaining kidney, penis and testicular cancers (1; 1.8%) each.

Conclusions: Urological cancers are very common in our region, particularly prostate cancers in which majority were poorly differentiated. This report though analyzed few cancers, the proportion of UC is high. Urothelial cancer of the bladder is now more frequent than squamous cell carcinoma. This study can serve as basis for future epidemiologic studies targeting at the risk factors, awareness and prevention of UC.

Keywords: Urological cancers, Malignancy, Prostate, Bladder, Kidney

INTRODUCTION

Urological cancers (UC) have been observed to be a major global burden and a significant cause of morbidity and mortality.¹ Prevalence of urological cancer in the populous state in Northern Nigeria is as high as 17.1% which surpasses the global prevalence of 14%.^{2,3} UC are becoming common in Nigeria.² In order to plan and tackle this burden, there is need to audit the pattern of these malignancies in our locality which is currently lacking in Damaturu. Damaturu is the capital of Yobe state in Northeastern Nigeria. The only teaching Hospital is located in the state capital, and all the surgical

specimens from hospitals in the region and beyond are being analyzed in the only available histopathology department of the hospital.

Objectives of our study was to describe the histological pattern, frequency and demographic characteristics of urological cancers seen in Damaturu.

METHODS

This was a retrospective analysis of all histologically confirmed urological malignancies seen at this center. All records of patients with the diagnoses between November

2017 to October 2019 of urological malignancies were retrieved from the histopathology department registers and results. Data extracted were the patients' biodata, Anatomical site of the cancer, histological types of the cancers and Gleason score in cases of prostate cancers. The data were analysed using statistical package for the social sciences (SPSS) version 20.

RESULTS

During this study under review, 55 cases of UC were diagnosed, which is equivalent to 34.1% of the 161

urological specimens subjected to histological examination during that period. All the UC were observed among adults, with mean age of 65.0 years, and males were dominating (51 cases, 92.7%) as shown in Table 1.

Male to female ratio was 13.8:1. UC also constituted 26.4% of the entire types of cancers in the cancer registry of the hospital during this period under review. All the prostate cancers were Adenocarcinoma as shown in Table 2 and majority of them fall under the category of poorly differentiated adenocarcinoma (Gleason scores 7-10, 73.0%) as shown in Table 3.

Table 1: Frequency distribution of urological cancers according to site, sex and age category.

Anatomical site of cancer	Sex		Total (%)	Age (year)		Total (%)
	Males	Females		Adults	Children	
Prostate gland	41	-	41 (73.8)	41	-	41 (73.8)
Urinary bladder	7	4	11 (19.8)	11	-	11 (19.8)
Kidney	1	-	1 (1.8)	1	-	1 (1.8)
Penis	1	-	1 (1.8)	1	-	1 (1.8)
Testis	1	-	1 (1.8)	1	-	1 (1.8)
Total	51	4	55 (100.0)	55	-	55 (100.0)

Table 2: Histologic types of various urological cancers.

Organ involved	Histologic type	Frequency	Percentage (%)
Prostate gland	Adenocarcinoma	41	73.8
Urinary bladder	Transitional cell carcinoma	8	14.5
	Squamous cell carcinoma (SCC)	3	5.4
Kidney	Clear cell renal cell carcinoma	1	1.8
Penis	Squamous cell carcinoma	1	1.8
Testis	Spermatocytic seminoma	1	1.8
Total		55	100.0

Table 3: Gleason scores in the patients with carcinoma of prostate.

Gleason score	Frequency	Percentage (%)
2	0	0.0
3	0	0.0
4	2	4.9
5	0	0.0
6	9	22.0
7	9	22.0
8	9	22.0
9	7	17.0
10	5	12.1
Total	41	100.0

DISCUSSION

In this study under review, majority of the patients were males (92.7%), this is similar to previous studies.^{2,4} All the patients we studied were coincidentally among adults only, which is contrary to the earlier reports of, Isiwele, Abdulkadir and Dauda et al in which children were affected and constituted 2.8, 2.9 and 7.6% respectively, this could be due to shorter period of our study with a corresponding smaller sample size.^{2,4,5}

Cancer of the prostate was the commonest UC observed (73.8%) which corresponds to earlier studies of Isiwele, Bowa, and Ouedraogo et al in Nigeria, Zambia and Burkina Faso respectively.^{4,6,7} Although, this is not a surprise, because prostate cancer has been observed to be the commonest malignancy particularly among Nigerian Men⁸. In our series all the prostate cancers observed were Adenocarcinomas, earlier studies were also dominated by adenocarcinoma, but additional histological types observed were urothelial carcinoma, neuroendocrine carcinoma, squamous cell carcinoma (SCC), Signet ring carcinoma, rhabdomyosarcoma, leiomyosarcoma and Angiosarcoma.^{2,4,7,9}

The peculiar and quiet alarming observation in our study was that most of the prostate cancers observed (73% of the cases) were poorly differentiated (Gleason score 7-10) as shown in Table 3, an important prognostic factor, because such patients have up to 43% cumulative incidence of death from the prostate cancer.¹⁰ Earlier studies reported Gleason scores of ≥ 7 by Alabi, Oluwole and Obiorah et al as 8.3, 51.0 and 60.6% of the cases

respectively. These percentages are less than our findings.

Similar to many previous studies, bladder cancer was the 2nd popular cancer observed in our report.^{2,5,7,9} Urothelial carcinoma was the predominant histological type as shown in Table 2, this is contrary to earlier studies in the same region of Nigeria where Squamous cell carcinoma dominated.^{11,12} Increased access to pipe borne water in the remote communities which could have possibly reduced the exposure to *Schistosoma haematobium* infestation, hence lowering risk of bladder cancer.¹² Other histological types of bladder cancer that were not observed in our study but reported in other studies are adenocarcinoma, mucinous carcinoma, Sarcomatous carcinoma, signet ring carcinoma, rhabdomyosarcoma, angiosarcoma, liposarcoma, lymphoma and pleomorphic undifferentiated sarcoma.^{2,6,13}

Although, cancers affecting the kidney, penis and testis were observed only one in each patient as shown in Table 2, but these histological types are among the common ones previously reported.^{2,5} We have not observed cancers of the ureters and urethra which were reported by other studies.^{2,9}

CONCLUSION

Urological cancers are very common in our region, particularly prostate cancers of which majority of them are unfortunately poor differentiated cancers. This report though analyzed few cancers, but the proportion of UC to other urological diseases is quite high. We have observed a change in the trend of bladder cancer in the region from urothelial cancer to SCC. This study can serve as basis for future epidemiologic studies targeting at the risk factors, awareness and prevention of UC.

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