CLINICO-DEMOGRAPHIC PROFILE AND TREATMENT OF PATIENTS WITH PROSTATE CANCER IN A NORTH- CENTRAL NIGERIAN TEACHING HOSPITAL

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ABSTRACT

Background: **Prostate cancer is one of the most common malignancies afflicting men worldwide. In the male population, it is estimated that one in seven will be diagnosed and one in 38 will die from prostate cancer. Majority of patients in Sub Saharan Africa present with advanced disease.**

Objective: **To identify among prostate cancer patients, the age, clinical manifestation and stage at presentation as well as treatment received.**

Materials and Method: **The study reviewed patients with prostate cancer at the Jos University Teaching Hospital between January 2014 and December 2017. The demographic and clinical characteristics as well as treatment given were analysed.**

Results: **A total of 82 patients were studied. Age range was 41-100 years with a median of 67.9 years. The peak age group was 71-80 years, accounting for 41.4% of patients. Lower urinary tract symptom was present in all patients at the time of presentation. 59.8% of these patients presented with metastatic symptoms. Persistent low back pain was seen in 61.2 % of patients with metastatic symptoms, and digital rectal examination was suggestive of malignancy in 62.2% of patients. PSA was >20ng/ml in 73.3% of patients. Histology for all patients was adenocarcinoma, with a predominant Gleason score of 8 (29.3%). Bilateral total orchidectomy was offered in 59.8% of patients.**

Conclusion: **Majority of patients with carcinoma of the prostate in Jos have features of metastasis at the time of diagnosis. Orchidectomy is the most common treatment offered in our environment.**

Keywords: Clinico-demographic profile, Prostate cancer, Treatment

INTRODUCTION

The first documented report of prostate cancer dates back to 1853 when J. Adams, a surgeon at The London Hospital, described the first case, which he discovered by histological examination. Adams noted in his report that this condition was "a very rare disease".[1] Remarkably, more than 150 years later, prostate cancer is a leading cancer diagnosis and cause of cancer-related deaths among men and a significant health problem.[2] Today, prostate cancer has become the second most commonly diagnosed cancer and fifth most common cause of cancer death among men, and represents a substantial health burden.[3,4] In the male population, it is estimated that one in seven (15.3%) will be diagnosed and one in thirty-eight (2.6%) will die from prostate cancer. Prostate cancer varies by race and ethnicity, with African Americans having 59% higher incidence than whites.[5] Prostate cancer mortality rates are noted to be generally highest in the predominately black populations of the Caribbean and sub-Saharan Africa.[4] A study in Nigeria showed that prostate cancer accounts for 11% of male cancers with a mean age of 71.4 years.[6] While there is an increase in early detection of prostate cancer in the western world, this is unfortunately not the case in Africa especially the sub-Saharan region as late presentation is the norm.[7] Several factors have been known to contribute to the development of prostate cancer. Unlike most cancers which have peak age incidences, incidence of prostate cancer continues to rise with increasing age, hence age has been adjudged the strongest of the risk factors for prostate cancer development.[8] Others, include black race and positive family history. Prostate cancer is known to rarely cause symptoms before it gets to an advance stage. Thus, early diagnosis requires a high index of suspicion. The presence of symptoms is often indicative of a locally advanced or metastatic disease.[9] Advanced prostate cancer refers to cancers that have gone beyond the prostatic capsule or cancers with a Gleason score ≥7.

Tools that are recognized in prostate cancer diagnosis and screening include digital rectal examination (DRE), prostate specific antigen testing (plus its refinements like PSA density) and transrectal ultrasound scans. Prostate specific antigen (PSA) is widely used in detection of prostate cancer. PSA testing increases the positive predictive value of DRE for prostate cancer hence, the use in combination by most urologist for prostate cancer detection.[10]

The optimum treatment option available to patients with prostate cancer at all stages of the disease has been a subject of debate due to uncertainty surrounding the relative efficacy of various modalities including radical prostatectomy, radiotherapy, surveillance and endocrine therapy, hence treatment decisions are guided by grade and stage of tumor, life expectancy of disease, associated morbidity as well as patient and surgeons preferences.[9] This study seeks to review the clinical characteristics of patients with prostate cancer and treatment given at a tertiary health institution in North central Nigeria.

METHODOLOGY
It is a retrospective descriptive study, January 2014-December 2017 carried out at the Jos University Teaching Hospital, Jos. Patients with histologic diagnosis of prostate cancer in urology unit were recruited for this study. Patient records were reviewed and data were obtained using a structured proforma. Patients with incomplete records were excluded. Data analysis was done using SPSS Version 20 with data expressed using tables.

RESULTS
Data obtained were for 82 patients and parameters analysed were: demographic characteristics, clinical presentation, PSA at presentation, histologic characteristics, and treatment modality.

The mean age of patients that presented was 67.9 years, all patients at the time of clinical presentation had lower urinary tract symptoms with 59.8% of them having features suggestive of metastasis at the time. The digital

Table 1: Age distribution of 82 patients with advanced prostate cancer

Age distribution	Frequency(n=82)	% Distribution
41-50	3	3.7
51-60	14	17
61-70	25	30.5
71-80	34	41.4
81-90	4	4.9
91-100	2	2.5
Total	82	100

Table 2: Duration of lower urinary tract symptoms (LUTS) in 82 patients with advanced prostate cancer

Duration (months)	Frequency (n=82)	% Distribution
<6	35	42.7
7-12	27	33
13-24	13	15.8
25-36	1	1.2
37-48	2	2.4
49-60	4	4.9
Total	82	100

Table 3: Distribution of Metastatic Symptoms in 49 patients with advanced prostate cancer

Symptoms	Frequency (n=49)	% Distribution
Persistent Low Back Pain	30	61.2
Lower Limb Weakness	10	20.4
Anaemia	5	10.3
seizures	2	4.1
Persistent cough	1	2
Inability to bear weight	1	2
Total	49	100

rectal examination finding was suggestive of malignancy at the time of diagnosis in 62.2% of patients.

The prostate specific antigen values ranged from 2.83 to 171.2 ng/ml with 2.4% of patients having a PSA

Table 4: Prostate Specific Antigen (PSA) at Diagnosis in 82 patients with advanced prostate cancer

PSA Range (ng/ml)	Frequency (n=82)	%Distribution
0 – 4	2	2.4
>4 -10	5	6.0
>10 -20	15	18.3
>20	60	73.3
Total	82	100

Table 5: Distribution of Gleason Score in 82 patients with advanced prostate cancer

Gleason SCORE	Frequency (n=82)	% Distribution
6	14	17.1
7	20	24.4
8	24	29.3
9	17	20.7
10	7	8.5
Total	82	100

<4ng/ml, 6% had PSA values 4 to 10 ng/ml,18.3% had values of 10 to 20 ng/ml while 73.3 % of the patients had PSA values >20 ng/ml.

Table 6: Distribution of treatment offered in 82 patients with advanced prostate cancer

Treatment Option	Frequency(n=82)	% Distribution
Bilateral Total Orchidectomy alone	35	42.7
LHRH Analogue, then BTO later	14	17.1
LHRH Analogue alone	7	8.5
Bicalutamide alone	7	8.5
None	19	23.2
Total	**82**	100

The histology results for all patients reported adenocarcinoma with the predominant Gleason Score of 8 (29.3%). The most common treatment option that patients had was endocrine therapy with bilateral total orchidectomy being the predominant form making up 42.7% of cases.

DISCUSSION
In this study, the age range at presentation was 41 to 100 years with a modal range of 71 to 80 years and a mean age of 67.9 years. All patients in this study had lower urinary tract symptoms at presentation which is consistent with late presentation as prostate cancer rarely present with symptoms unless when advanced.[9]

The duration of symptoms before presentation was less than 6 months in majority of patients.

This is similar to a study by Nwofor and Oranusi which showed average duration of 8 months prior to presentation,[11] this may be explained by improved health consciousness in Jos (in North Central Nigeria compared to South Eastern Nigeria).

The predominant symptoms in this study indicative of metastasis were persistent low back pain and lower limb weakness making up 61.2% and 20.4% respectively. This can be explained by the fact that the commonest route of spread of prostate cancer is to the bone and in particular the spine.[12] Similar study by Ekeke *et al.* in Port-Harcourt found paraplegia and haematuria with anaemia to be the common features.[13] In Africa and Nigeria in particular, most patients with prostate cancer present with advanced disease and endocrine therapy is the commonest treatment option offered. From the study, 42.7% of patient preferred and opted for surgical castration (bilateral total orchidectomy) as a primary mode of treatment, while 17.1% of patient who initially opted for medical castration later requested for surgical castration. This is probably due to high cost of the drugs hence it is difficult for patients to procure regularly these medications and sustain it considering healthcare in this part of the world is still predominantly on a out-of-pocket basis with little or no insurance cover. Also, from the study 23.2% of patient declined any form of therapy, a finding that may be explained by patients aversion to surgical orchidectomy, financial constraints and fears with regards adverse effects of these medications.[4]

CONCLUSION
Carcinoma of the prostate is common in Africa, with an incidence and attributed mortality that is on the rise especially among the elderly. Our study corroborates the finding that late presentation is common in sub-Saharan Africa with a large number of patients having features of metastasis at the time of diagnosis. Orchidectomy is the most common treatment offered in our environment as most modern treatment options for the disease are unavailable or unaffordable. There is the need to institute measures for early diagnosis and provision of facilities to institute effective treatment.

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