

Prostate Cancer in North of Benin: Epidemiological, Diagnostic Aspects and Difficulties of Management

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How to cite this paper: Isidore, G.K., Bio, T.S., Rafiou, T.S., Patrick, D., Fouad, S. and Alexandre, A. (2022) Prostate Cancer in North of Benin: Epidemiological, Diagnostic Aspects and Difficulties of Management. *Open Journal of Urology*, 12, 185-192. <https://doi.org/10.4236/oju.2022.123018>

Received: February 7, 2022

Accepted: March 12, 2022

Published: March 15, 2022

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Abstract

Background: In low incomes country, management and follow up of prostate cancer were hard due to difficult to earn drug and difficult access of new test imaging. We explore the epidemiological and diagnostic aspects of prostate cancer at regional university hospital of Parakou from 1st January 2017 to 1st January 2019. **Objective:** To study diagnostic and clinical aspects of prostate cancer at regional university hospital of Parakou. **Methodology:** This study was descriptive with prospective data collection (1st January 2017 to 1st January 2019). Patients who were admitted to the department were included. Demographic, clinical and anatomopathological variables were studied. **Result:** Eighty-one patients were included; the hospital prevalence is 1.6%. The mean year old of patients was sixty-nine years old \pm 10 years old (farthest 45 years old and 95 years old). More than half patients were seventy years old. The medical past history of family cancer were found in 6.1% of cases. The complaints were voiding difficult in 54.3% of cases, urinary frequency in 46.9% of cases, complete urine retention in 28.4% of cases and bones pain in 14.8% of cases. The average time of consultation was 24.3 months (farthest 2 months and 48 months). The mean of prostate specific antigen (PSA) was 93.1 ng/ml (farthest 4 ng/ml and 1000 ng/ml). Adenocarcinoma was found in 84.1% of cases. Classic X-ray imaging was used in most cases to detect metastasis. Five patients had done thoracic-abdominal-pelvis tomography. Sixty-six patients (81.5% of cases) were prostate cancer metastasis. **Conclusion:** Prostate cancer was frequently disease in seventy years old patients. Diagnostic was late in this study. Awareness campaign of patients for early consult was recommended.

Keywords

Prostate Cancer, Late Diagnostic, Metastasis, PSA

1. Introduction

Prostate cancer is malign cancer. It is public health disease on the world. First cancer after fifty years old, prostate cancer is 4th row leading to death cancer on the world and 2nd row leading to death cancer in France after lung cancer [1] [2]. Prostate cancer can occur exceptionally before the fifty years old [3]. In Benin, prostate cancer was the first urology cancer; the prevalence of hospital was 12% [4].

Popularization of prostate specific antigen and digital rectal examination in the occidental countries involved early screen of disease and efficient management [5]. Nevertheless, in low incomes countries as Benin, the diagnostic was late; efficient management is difficult and only palliative management could be done.

This study was initiated to make point on specificities about prostate cancer in North of BENIN.

2. Methodology

This study was descriptive and prospective from 1st January 2017 to 1st January 2019. All patients who had prostate cancer were admitted at regional university hospital Borgou in Parakou. It was the unique hospital which had urology department in the north of BENIN.

We have included in this study: all patients who had prostate cancer and positive anatomopathological screen; all patient were suspected to digital rectal examination, prostate specific antigen ≥ 10 ng/ml and imaging test prove metastasis.

The patients who were secondary prostate cancer and they do not approved study were excluded.

We had studied these items: demographic profile (age, ethnic group, married or none, past medical history of patients, occupation), the complaints, physical feeling and imaging test.

The data was collected as soon as the patients were admitted using a pre-established survey form and filled in, depending on the results available.

We used software Epi info to collect data. The qualitative variables were expressed on proportion confidence interval (IC) 95% and the quantitative variables were expressed in mean with standard deviation. For the different association, significant level was 5%.

Indeed, we submitted our study project to the Local Ethics Committee for Biomedical Research of the University of Parakou (CLERBUP) which gave a favorable opinion. Anonymity was respected regarding the information obtained after informed approbation. Every patient was single examined.

3. Results

Eighty-one patients were admitted on thirty-one months. The 32.4 cases were admitted per year. The mean year old was 69 ± 10 years old (farthest 45 years old

and 95 years old). Eight patients on ten were more than sixty years old. One patient was less than fifty years old as shown in **Figure 1**.

Hypertension and diabetes were the most comorbidity in 33.3 percent and 12.3 percent every one; four patients (4.9%) had cerebrovascular accident.

The past medical history of family prostate cancer in first degree was found in five patients (6.1%). Moreover three patients were medical past history of breast cancer.

In consumer habit, we found milk in forty-four patients (54.3% of cases); we were found animal fat consumption in thirty-one patients (38.3 percent), alcohol in twenty-two patients (27.2%) and tobacco in six patients (7.4%).

All patients were coming to advanced stage of disease. Thirty-four patients (42% of cases) had used phytotherapy and twenty-two patients (27.2% of cases) done self-medical prescription. The average time of consultation was two months to forty-eight months. The mean was 24.3 months. Sixty-six patients (93.8% of cases) were complaints as shown in **Table 1**.

Fifteen patients (18.5% of cases) were normal digital restal examination. All patients had high level total prostate specific antigen (TPSA) (upper to 4 ng/ml). This value varied from 4 ng/ml to 1000 ng/ml. The mean was 93.1 ng/ml.

Three patients on quart were increased high level TPSA belong to 20 ng/ml. Among which twenty-three were TPSA belong to 100 ng/ml. We did biopsy in fifty-eight patients (80.7% of cases). The others patients (twenty-three) were more than seventy years old; TPSA was higher (upper to 100 ng/ml) and had had clinical complaints of prostate cancer.

Adenocarcinoma was found in 93.1 of cases. Epithelial intra neoplasia (PIN) high-rank was found in four patients (6.4% of cases). The mean of Gleason score was 6.95 (farthest 6 and 9). Prostate cancer was bad prognosis (Gleason score upper to 7) in 26.6% of cases.

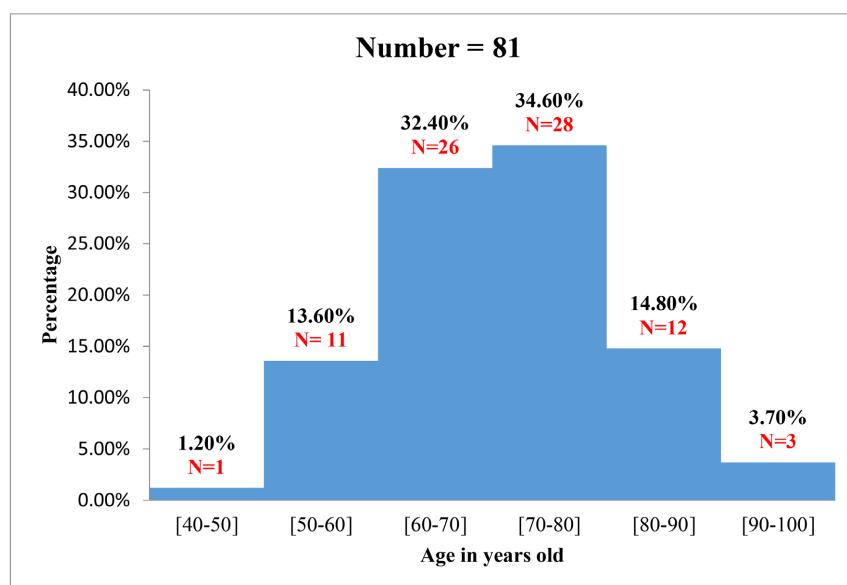


Figure 1. Distribution of patients according to age.

We did thoracic-abdominal-pelvis tomography (TAP-tomography) coupler to bone scintigraphy in one patient and thoracic-abdominal-pelvis tomography in five patients. The others patients were done classic X-ray imaging and abdominal-pelvis ultrasound to detect metastasis of lung, pelvis bones, spinal column and liver as shown in **Table 2**.

Table 1. Distribution of patients according to the complaints.

	Frequency	Percentage (%)
Fortuitous discovery (number = 5)		
Prostatic adenomectomy piece	3	3.7
Awareness campaign	2	2.5
Urologic complaints		
Voiding difficult	44	54.3
Nycturia	38	46.9
Frequency urgency	32	39.5
Complete retention urine	24	29.6
Frequency voiding	20	24.7
Voiding pain	16	19.8
Hematuria	7	8.6
Non urologic complaints		
Bones pain	12	14.8
Neurological deficient	4	4.9
Chronic cough	2	2.5
Lower limb oedema	2	2.5
Pathological break	1	1.2

Table 2. Distribution of patients according to imaging test.

	Frequency	Percentage	disorders (%)	
pelvis	64	79	34 (53.1)	
Spinal cord	60	74.1	37 (61.7)	
Dorsal rachis	6	7.4	5 (83.3)	
Classic X-ray imaging	Femur	2	2,5	1 (50.0)
	Humerus	1	1,2	1 (100.0)
	Grill costal	34	42	16 (47.1)
	Lung	64	79	29 (45.3)
TAP-Tomography	5	6.2	2 (40.0)	
Tomography-TAP-Bones scintigraphy	1	1.2	0 (0)	

4. Discussion

The frequency of new cases of prostate cancer per year was 32.4. Zango *et al.* [6] in Burkina-Faso had found thirteen new cases per year. The hospital prevalence was 5% and 16.3% in Guinee-Conakry [7] and Ivory Coast respectively. The incidence was underestimated because the patients who had clinical complaints and came to consultation included in these studies. They have excluded prostate cancer in early stage. The incidence was increased in developed country because of improvement of the diagnostic means and the management of this disease. Indeed Yaturu [8] in USA had found two and hundred-thirty-two thousand ninety new cases in two thousand five years. Rozet [9] *et al.* were found in France seventy thousand of new cases in two thousand fifteen years. Awareness campaign of patients and update of cancer register will help our government in management of cancer and specially on prostate cancer.

Prostate cancer was oldest man disease. The most cases were discovered after fifty years old. In this study, the patients aged sixty years old and more were 85.5%. The mean of year old was 69 years old \pm 10. In Togo [10], the mean year old was 68.5 years old. Abdessamad in Morocco [11] and Rigaud [12] were found seventy-two years old and seventy years old respectively. Prostate cancer was unusual in young people aged fifty years old. We were found two cases in this study. In Senegal, Alioune *et al.* [13] were found a mean year old of 44.3 in their study on early screen prostate cancer in forty years old men. Prostate cancer in young people was family cancer (inborn) or chromosome alteration [13]. Likelihood of prostate cancer depending of relationship on degree, number of relatives reached and age of the relative at the time of the cancer carrier diagnosis. The family form of prostate cancer in developed country was estimated 13% to 26% [14] [15]. Ndoye *et al.* [16] found it in both brothers who had first degree relationship. In this study, five patients (6.1%) had had genetic predisposition and cancer family in first degree relationship (father ascending) were found in four cases and the son one case.

Hypertension and diabetes were co-morbidity factors in 45.6% of cases. Hounnasso *et al.* [17] were found hypertension and diabetes in 33.3% and 6%. These comorbidity factors lead to difficult to management of prostate cancer. Because the patient was spent lot for their management and then due to progressive complication specific to diseases.

Prostate cancer was asymptomatic start disease. Cussenot [18] was told that the discovery of complaints revealed advanced cancer. In this study seventy-six patients (93.8%) were complaints. These results were the same that Niang *et al.* [19] study.

Complete urine retention was found in 28.4% in cases. In Senegal, Ndoye *et al.* [16] were found 23.53% in cases. Unlike the subsahara studies, in Morocco Abdessamad [11] was found it in 1.9% in cases. The higher rate of complete urine retention in subsahara studies can be explained by late of consultation due to lack of knowledge disease, asymptomatic start disease and lack of financial

means.

In this study the most of patients (51.8%) were consulted one to six months. The time of consultation was increased and be equivalent to other studies [20].

These results were explained lack of knowledge disease, illeteracy, phytoterapy self-prescription. In most of cases (42%) were used phytoterapy before to consult.

The mean of PSA level was 93.1 ng/ml. This result depends on study type: weak for localized cancer, a higher for metastasis cancer. In the subsahara studies the rate was higher 212 ng/ml to 1754.7 ng/ml [16] [21]. These results had proved that the diagnostic of prostate cancer was done in advanced stage [22] [23]. In normogram, if PSA level was beyond 20 ng/ml the patient had bones metastasis risk and it was sure if PSA level > 100 ng/ml [24].

PSA level rate was correlated to cancer stage, regional lymph nodes or metastasis [25]. In this study fifty-six patients (77.8% of cases) were increased PSA level beyond 20 ng/ml and 26.4% of cases had PSA level beyond 100 ng/ml. As a result of normogram 77.8% of cases in this study were metastasis cancer or had risk to develop metastasis cancer.

The main type histologic of prostate cancer was adenocarcinoma [10] [20] [21].

Ndoye *et al.* [16] in Senegal were found adenocarcinoma in 97.7% of cases and sarcoma was second histologic type. In this study, adenocarcinoma was found in 84% of cases; the 16% remaining was undefined cancer which need to immunohistochemical test.

Osteophilic of prostate cancer and osteoblast of bones metastasis to this cancer lead to detect easily metastasis on scintigraphy. This imaging was major to detect bones metastasis. But in low incomes countries it was not accessible. Only one patient was done in this study.

Tengue *et al.* [10] in Togo were realized scintigraphy in 7.8% of cases. Ndoye *et al.* [16] in Senegal did this imaging test in five patients on one-hundred-two patients (4.9% of cases). These rates prove that scintigraphy was not accessible in low incomes countries.

The classic X-ray imaging was the main test to detect metastasis in this study. The other studies were confirmed [10] [16]. However in Morocco study the scintigraphy was the main imaging Ref. [11]. In last time, classic X-ray imaging was the first line indication to detect bones metastasis in osteophilic cancers but now it has lost its in dication in the assessment of extension of these cancers Ref. [25]. Among the nineteen patients whose PSA level beyond 100 ng/ml, eight patients were realized classic X-ray imaging. Three patients on eight (37.5%) had had normal classic X-ray imaging lead to under staging of cancer.

5. Conclusion

Prostate cancer was serious oldest man cancer. It was under staging in low incomes countries because of lack knowledge of patient, inadequacy of the tech-

nical platform. Awareness campaign of patients for early consult was recommended.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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