

# Survey on clinical and subclinical characteristics of first diagnosed prostate cancer at 108 Military Central Hospital

Nguyen Thanh Tuan, Do Ngoc The,  
Tran Vu Nam

108 Military Central Hospital

## Summary

**Objective:** To describe several clinical and subclinical characteristics of patients with first diagnosed prostate cancer at 108 Military Central Hospital. **Subject and method:** A retrospective study was performed on 312 patients with first diagnosed prostate cancer in Department of Urology, 108 Military Central Hospital, from January 1<sup>st</sup>, 2016, to December 31<sup>st</sup>, 2020. Main research criteria: age, symptoms of urinary disorders, total PSA, signs of bone metastases, and Gleason score. **Result:** Mean age was 73.9-year-old, frequent clinical symptoms were urinary hesitancy 51% and acute urinary retention 32.4%; mean prostate volume was 61.1ml; the rate of carcinoma was 99.6%; most of cases had high PSA ( $\geq 20$ ng/ml) and very high ( $\geq 100$ ng/ml); 63.7% of cases had signs of bone metastases at the time of diagnosis. **Conclusion:** Prostate cancer is mainly late diagnosed; the rate of adenocarcinoma accounted for 99.6%.

**Keywords:** Prostate cancer, clinical and subclinical characteristics.

## 1. Background

Prostate cancer is the most common malignancy of the urinary system, and the most common cancer in developed countries [1, 2]. Vietnam is not a country with a high rate of prostate cancer compared to other types of cancer; according to IARC statistics, there were 6248 new cases in 2020, accounting for 6.3% of the total number of cancers and ranking 5th in the incidence of cancer in men (after liver, lung, stomach, colorectal) [3]. However, the problem that has existed for many years is that screening and early diagnosis of prostate cancer is only interested in a few urology centers and has been researched and reported [4, 5].

A few studies show that patients often come to the doctor when there are local clinical symptoms (urinary retention, hematuria), or distant metastases (bone pain...); the disease is already at a late stage, no longer capable of radical treatment... [6, 7]. Therefore, this study was conducted to describe several clinical and subclinical characteristics of patients with first diagnosed prostate cancer at 108 Military Central Hospital from 2016 to 2020; also, to contribute to additional information on the current reality of prostate cancer in Vietnam.

## 2. Subject and methods

### 2.1. Subject

Including patients with a definitive diagnosis of prostate cancer for the first time in the Department of Urology, 108 Military Central Hospital. Retrospective data were collected in 5 consecutive years from January 1<sup>st</sup>, 2016, to December 31<sup>st</sup>, 2020.

---

**Received:** 19 September 2022, **Accepted:** 23 November 2022

**Correspondence to:** Nguyen Thanh Tuan, the Department of Urology, 108 Military Central Hospital

**Email:** [dongocthe@yahoo.com](mailto:dongocthe@yahoo.com)

## 2.2. Method

Design: A retrospective, cross-sectional description study.

Research criteria: Age, symptoms of urinary disorders, prostate volume, techniques for diagnosing prostate cancer; total PSA serum concentration at the time of definitive diagnosis of prostate cancer, rate of disease stages, and Gleason grade for prostate carcinoma.

Data collection and processing:

The input data were collected from medical records.

Output data are expressed as percentage, mean and standard deviation, compare 2 means by t-student test with the difference having statistical significance when  $p < 0.05$ .

Statistical analysis was performed using the program SPSS 20.0 for Mac.

## 3. Result

In 5 years, from January 1, 2016 to December 31, 2020, there were 312 patients with first diagnosed prostate cancer who had an average prostate volume of 61.1 (11-570ml); 256 patients had prostate biopsy through the rectum (82.1%) and 56 patients detected prostate cancer through specimens after transurethral resection of the prostate (17.9%); up to 311 cases were the adenocarcinoma (99.6%), and only 1 case was the ring cell carcinoma.

### 3.1. Age

Average age was  $73.9 \pm 9.4$  (44-96 years old).

**Table 1. Age group of patients**

Age group (years)	Number of patients	Percentage %
< 50	2	0.6
50-59	21	6.6
60-69	81	25.4
70-79	110	34.5
≥ 80	98	30.7
<b>Total</b>	<b>312</b>	<b>100</b>

The first detected prostate cancer was mainly in the elderly group (from 70 years old), accounting for 65.2%.

### 3.2. Reasons for hospital admission

**Table 2. Outstanding symptoms**

Symptoms	Number of patients	Percentage %
Urinary retention	101	32.4
Hesitancy	159	51
Hematuria	16	1.6
Frequency, dysuria	6	1.9
Osteodynia	10	3.2
Incidental	20	6.4
<b>Total</b>	<b>312</b>	<b>100</b>

The main symptom that causes patients to go to the hospital and detect prostate cancer was lower urinary tract obstruction (urinary retention, hesitancy), accounting for 83.4%.

### 3.3. Serum total PSA concentration

Due to the lack of consensus on the index of test results, this study divided the group of patients according to the PSA concentration range.

**Table 3. Total PSA level**

PSA (ng/ml)	Number of patients	Percentage %
< 4	3	1
$4 \leq \text{PSA} < 10$	5	1.6
$10 \leq \text{PSA} < 20$	16	5.2
$20 \leq \text{PSA} < 50$	61	19.7
$50 \leq \text{PSA} < 100$	61	19.7
≥ 100	164	52.9
<b>Total</b>	<b>310<sup>(*)</sup></b>	<b>100</b>

(\*)there were 2 cases where the PSA test index could not be found in the records.

Most patients in this study had high-risk PSA ( $\geq 20\text{ng/ml}$ ); the number of PSA cases  $\geq 100\text{ng/ml}$  accounted for 52.9%.

### 3.4. Bone metastasis

**Table 4. Bone metastasis on scintigraphy**

Bone metastasis	Number of patients	Percentage %
Not detected	37	36.3
Damaged	65	63.7
Total	102	100

There were 102 cases of bone scan; lesions suspected of metastatic prostate cancer accounted for 2/3 of the surveyed patients (63.7%).

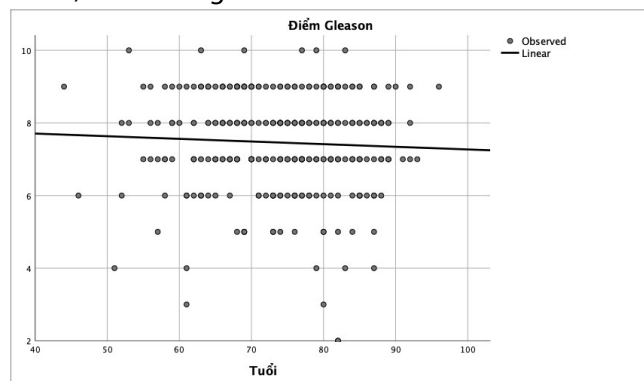
### 3.5. Gleason Score

**Table 5. Gleason score risk assessment**

Gleason Score	Number of patients	Percentage %
< 7	62	20.2
7	83	27
> 7	162	52.8
Total	307	100

(\*) there were 5 cases where Gleason score was not assessed

The disease was at high risk according to Gleason score, accounting for 52.8%.



**Figure 1.** Relationship between Gleason score and age. There was no relationship between age and Gleason score (Pearson correlation:  $r = -0.05$ ,  $p=0.38$ ).

## 4. Discussion

Prostate cancer are common in the age group of 70 and older. Vu Nguyen Khai Ca (2012) with the statistics in 1 year at Viet Duc Hospital reported 71/119 cases (59.7%); Ngo Xuan Thai (2016) with statistics in 3 years at Cho Ray Hospital reported

129/185 cases (79.7%) [6, 7]. Similarly, the study at 108 Military Central Hospital showed this rate was 65.2% (208/312 patients) (Table 1). This is also consistent with large statistics, stating that prostate cancer begins to appear from the age of about 50 and increases with age [1, 2].

Regarding the prominent symptoms when going to the doctor, most of the cases had lower urinary tract obstruction (urinary retention 32.4%, hesitancy 51%, according to Table 2) like the referenced studies [6,7]. Thus, these symptoms are likely to lead patients and doctors to only common pathologies such as benign prostatic hyperplasia, without focusing on prostate cancer screening. This is one of the reasons why the early detection rate is very low.

Besides, the very worrying fact is that most patients in the study have a high-risk PSA index (> 20ng/ml), and the number of PSA cases  $\geq 100$  ng/ml accounts for 52.9% (Table 3), which means that the risk of disease progression and metastasis at the time of detection is very high [7]. In addition, in 102 patients who underwent bone scan, up to 65 cases (63.7%) had bone metastases on scintigraphy (Table 4). Thus, the indication for radical treatment for this group of patients was no longer available, but it was imperative to treat with multimodality methods that prolong time, high cost for patients and their families as well as medical expenses and health insurance.

Our study showed that 311 cases were adenocarcinoma (99.6%), and only 1 case was ring cell carcinoma. This result is similar to Vu Nguyen Khai Ca (2012) whose rate is 100%; the histopathologic types of prostate cancer in Ngo Xuan Thai's report were more diverse when seeing both sarcoma, undifferentiated carcinoma, and mucinous carcinoma, but the rate of adenocarcinoma was still very high at 97.3% [6,7]. Thus, it seems that the rate of adenocarcinoma in Vietnamese people is similar to the overall rate in the world [1]. Table 5 shows that most patients have Gleason score > 7, the disease is in the high and very high-risk groups; and age were not correlated with Gleason score (Figure 1). Research by

author Ngo Xuan Thai (2016) has different results when the Gleason score = 7 is the majority with 42.2% and the percentage of patients with Gleason score > 7 is 36.4%.

Thus, the general condition of the patient when coming to the hospital, the disease is usually in the stage of local progress or metastasis. Although prostate cancer is thought to be slow progression, can be diagnosed early, and screened well by rectal examination, serum PSA test, and transrectal ultrasound, the above statistics suggest the opposite [8].

The limitation of this study is that it did not collect enough data on stage diagnosis such as rectal examination, T (tumor) and N (lymph node) stages for better analysis.

## 5. Conclusion

Prostate cancer is usually detected at the age of over 70 years, with common clinical symptoms, like benign prostatic hyperplasia, such as hesitancy and urinary retention; most cases have high PSA index ( $\geq 20\text{ng/ml}$ ) and very high ( $\geq 100\text{ng/ml}$ ); 2/3 of the cases examined by scintigraphy had signs of bone metastasis at the time of disease detection; the rate of adenocarcinoma accounted for 99.6%.

## References

1. Mottet N, Cornford P, Bergh RCNVd et al (2021) *Guideline on Prostate Cancer (EAU - EANM - ESTRO - ESUR - ISUP - SIOG)*. EAU Guidelines. 2021.
2. Trung NS, Dat NQ (2011) *Pathology of prostate cancer*. Journal of Practical Medicine 769+77061-88.
3. IARC Globocan 2020 Vietnam. 2020. <https://gco.iarc.fr/today/data/factsheets/populations/704-viet-nam-fact-sheets.pdf>
4. Chuyen VL, Oanh DQ, Ty VV et al (2010) *Prostate cancer screening: The first results in Binh Dan hospital - Vietnam*. Ho Chi Minh city Journal of Medicine 14(1): 534-538.
5. Chuyen VL, Oanh DQ, Toan DA (2012) *Prevalence of prostate cancer at Binh Dan hospital in aging men more than 50 years old*. Ho Chi Minh city Journal of Medicine 16(1): 355-342.
6. Ca VNK, Long H, Bac NH et al (2012) *Evaluate the clinical and management characteristics of patient with prostatic cancer at Viet Duc university hospital*. Ho Chi Minh city Journal of Medicine 16(3): 294-298.
7. Thai NX, Ha NN, Sam TM, Thuan CQ (2016) *Characteristics of prostate cancer at cho ray hospital from 2012-2014*. Ho Chi Minh city Journal of Medicine 20(4): 22-27.
8. Chuyen VL, Ca VNK, Sinh TN et al (2014) *VUNA guideline on diagnosis and management of prostate cancer*. Hanoi: Medical Publishing Company.