มะเร็งต่อมลูกหมากของผู้ป่วยในโรงพยาบาลศรีนครินทร์ มหาวิทยาลัยขอนแก่น

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Prostate Cancer in Srinagarind Hospital

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หลักการและวัตถุประสงค์: มะเร็งต่อมลูกหมากพบมากที่สุดในกลุ่มชายสูงอายุ ในประเทศตะวันตก สำหรับประเทศในแถบเอเชียพบน้อยกว่า แต่มีแนวโน้มที่สูงขึ้นทุกปี เนื่องจากสัดส่วนของผู้สูงอายุมีมากขึ้น ในประเทศไทยการศึกษาด้านข้อมูลทั่วไปและลักษณะทางพยาธิกายวิภาคของมะเร็งต่อมลูกหมากมีไม่มากพอ สำหรับการศึกษาครั้งนี้มีวัตถุประสงค์เพื่อวิเคราะห์ข้อมูลทั่วไปและลักษณะทางพยาธิกายวิภาคเพื่อเป็นข้อมูลสำหรับการวินิจฉัยและการรักษามะเร็งต่อมลูกหมากให้มีประสิทธิภาพ

วิธีการศึกษา: เป็นการศึกษาเชิงพรรณนาแบบย้อนหลังจากเวชระเบียนผู้ป่วยที่ได้รับการวินิจฉัยเป็นมะเร็งต่อมลูกหมากในโรงพยาบาลศรีนครินทร์ คณะแพทย์ศาสตร์ มหาวิทยาลัยขอนแก่น ระหว่างวันที่ 1 มกราคม พ.ศ. 2528 ถึง 31 ธันวาคม พ.ศ. 2553 โดยเก็บข้อมูล อายุ ระดับเซรั่ม PSA การผ่าตัดรักษา การกระจายของมะเร็งไปกระดูก นำมาวิเคราะห์ข้อมูลเป็นจำนวน ค่าเฉลี่ย และร้อยละ

ผลการศึกษา: มีผู้ป่วยมะเร็งต่อมลูกหมากทั้งหมด 406 ราย อายุเฉลี่ย 69.24 ปี (29-91 ปี) เซรั่ม PSA เฉลี่ย 59.99 ng/ml (2.43 ถึง ≥ 100 ng/ml) ผลตรวจทางพยาธิวิทยาแยกตามกลุ่มระดับคะแนน Gleason พบว่า กลุ่มค่าคะแนน 2-4 มี 59 ราย (ร้อยละ 13.69) กลุ่มค่าคะแนน 5-7 มีจำนวนผู้ป่วยมากที่สุด 145 ราย (ร้อยละ 33.64) รองลงมาคือกลุ่มระดับคะแนน 8-10 มี 120 ราย (ร้อยละ 27.84) สำหรับในกลุ่มมะเร็งที่กระจายไปอวัยวะ พบว่ากระจายไปกระดูก 173 ราย (ร้อยละ 42) ซึ่งส่วนใหญ่จะกระจายไปยังกระดูกมากกว่าหนึ่งชิ้น ซึ่งพบว่ามีการกระจายของมะเร็งไปกระดูกตะโพกมากที่สุด 140 ราย (ร้อยละ 80.92)

Background and Objective: Prostate cancer is the second common cancer in elderly male in worldwide, especially Western countries. In contrast, its incidence is low in Asia. However, the incidence rate is now being diagnosed with yearly increasing frequency due to increasing proportion of elderly person. In Thailand, the prostate cancer with general data and histopathologic features has not been completely described. Therefore, the aim of this study was to analyze the history records of patients who were diagnosed with prostate cancer in order to provide the information for the efficient prostate cancer diagnosis and treatment.

Methods: This retrospective descriptive study was performed on the review of medical records of patients who were diagnosed prostate cancer between January 1,1985 to December 31,2010 at Srinagarind Hospital, Faculty of Medicine, Khon Kaen University. Information was included age, PSA levels, surgical procedures, histological reports, and radiological reports. These data were analyzed for descriptive statistics.

Results: There were 406 patients diagnosed with prostate cancer, mean age 69.24 (29-91) years and mean serum PSA level (2.43 to ≥ 100) ng/ml. The patients group with Gleason score 5-7 were the most of the pathological report, 145 (33.64%) followed by 120 (27.84%) patients with Gleason score 8-10, 59 (13.69%) patients with Gleason score 2-4, respectively. Multiple bones metastasis was detected in 173 (42%) patients. Hip bone was the most common site for metastasis, 140 (80.92%) patients.

สรุป: มะเร็งต่อมลูกหมากเริ่มพบได้มากเมื่ออายุ 50 ปีขึ้น ไป และมีค่าเฉลี่ยเซรั่ม PSA 59.99 ng/ml มะเร็งกระจายไป กระดูกตะโพกมากที่สุด

Conclusion: The most patients with prostate cancer are diagnosed above 50 years old and the average of serum PSA levels was highly (59.99 ng/ml). In addition, hip bone was the most common metastasis.

Introduction

Prostate cancer is a major problem health in elderly men worldwide which the second common cancer in men. Its rank is the first for cancer in male population in developed countries and the sixth under developing countries[1]. It is well-established in patients with suffering from terrible urinate that contribute to low quality of life. Currently, the prostate cancer screening is mainly composed of the digital rectal examination (DRE), the measurement of serum prostatic-specific antigen (PSA) (normal 0-4 ng/ml). For more precisely diagnosis, the urologist will consider for transrectal ultrasound-guided prostate biopsy (TRUS). Early detection of prostate cancer is increasingly emphasized than therapy since the patient is diagnosed organ-confined prostate cancer that could be prolonging survival. Advance stages in prostate cancer can metastasize to several organs of the body. Furthermore, the most commonly are vertebrae[2].

The incidence of prostate cancer in Thailand is 5.5 age standardized rate (ASR) according to the world statistics, that the fourth of cancer in male and 3.2 ASR in Khon Kaen province[3]. In addition, it is being diagnosed with yearly increasing frequency. However, prostate cancer with general data and histopathologic features in Srinagarind Hospital has not been completely described. Consequently, this study was the aim to analyze the history records of patients who were diagnosed prostate cancer. This is to provide the information for the surgeons or researchers and to contribute to the efficiency of prostate cancer diagnosis and therapy.

Methods

This retrospective descriptive study was performed on the review of the medical records of patients who were diagnosed prostate cancer between January 1, 1985 to December 31, 2010 at Srinagarind Hospital, Faculty of Medicine, Khon Kaen University. The history review was recorded including age, PSA levels, surgical procedures, histopathological reports, and radiological reports. These data were analyzed for descriptive statistics by using IBM SPSS for Windows.

Results

There were 406 patients with prostate cancer, reviewed in 1985-2010, mean age 69.24± 9.12 (range 29-91) years old (Table 1). All of these were diagnosed with adenocarcinoma type.

The surgical procedures for prostate cancer management were divided into two categories, the first as for the diagnosis, TRUS biopsy, and the second as for the prostate cancer therapy including transurethral resection of prostate gland (TURP), radical prostatectomy, and bilateral orchidectomy. There were 209 (30%) TRUS biopsy, 172 (25%) TURP, 53 (8%) radical prostatectomy, and 261 (37%) bilateral orchidectomy operations.

There were 434 procedures performed on 406 patients. The histopathological reports as Gleason score were categorized in three major groups including score 2-4, score 5-7, and score 8-10. There were 59 (13.69%) patients in score 2-4, 145 (33.64%) patients in score 5-7, 120 (27.84%) patients in score 8-10, 3 (0.7%) patients in prostatic intraepithelial neoplasia (PIN), and 107 (24.83%) cases with no Gleason score report (Table 2).

41 histopathological reports from 53 radical prostatectomized patients showed that 20 (48.78%) cases with not free margins, 15 (36.59%) cases with invaded seminal vesicle, 5 (12.20%) cases with invaded bladder neck, 1 (2.44%) case with invaded urethra, 1 (2.44%) case with invaded iliac lymph node, while the vas deferens was not involved with tumor (Table 3).

The pre-treatment serum PSA levels of 316 patients were varied from 2.43 to more than 100 ng/ml (mean 59.99 ng/ml).

There were 173 of 287 patients reported bone metastasis after underwent bone x-ray and/or bone scan. The most common bones of metastasis were hip bone followed by lumbar spine, thoracic spine, ribs, and femur, respectively (Table 4, 5).

There were 52 (70.27%) of 74 patients with Gleason score 8-10 which the highest detected with the evidence of metastases to bones followed by patients with Gleason 5-7 found in 33 (39.29%) cases and patients with Gleason score 2-4 found in 10 (37.04 %) cases, respectively. In patients with more than 100 ng/ml of pre-treatment serum PSA levels, there were 88 (87.13%) of 101 cases that shown bone metastasis from bone x-ray or bone scan method (Table 6).

Table 1 Age distribution of patients with prostate cancer in Srinagarind Hospital, 1985-2010.

Age (years) (%): 406 cases	
Mean (± SD)	69.24 ± 9.12
Range	29 - 91
≤ 49	7 (2)
50 - 59	48 (12)
60 - 69	144 (35)
70 - 79	154 (38)
≥ 80	53 (13)

Table 2 Patients underwent surgery presented pathology reports in Gleason score system, 434 (cases).

Gleason score	Cases (%)
2 – 4	59 (13.69)
5 – 7	145 (33.64)
8 – 10	120 (27.84)
PIN	3 (0.7)
No Gleason score report	107 (24.83)

Table 3 Tumor involves regions in radical prostatectomy, 41 cases.

Tumor involves regions	Case (s) (%)
Seminal vesicle	15 (36.59)
Not free margin	20 (48.78)
Urethra	1 (2.44)
Bladder neck	5 (12.20)
Iliac lymph node	1 (2.44)
Vas deferens	0

Table 4 Prostate cancer with bone metastasis, 173 cases.

Bone metastasis	Cases (%)
Skull	39(22.54)
Mandible	8 (4.62)
Sternum	18 (10.40)
Ribs	88 (50.87)
Scapular	36 (2.81)
Clavicle	14 (8.09)
Cervical spine	33 (19.08)
Thoracic spine	88 (50.87)
Lumbar spine	108 (60.12)
Sacrum	24 (13.87)
Sacroiliac joint	25 (14.45)
Hip bone	140 (80.92)
Humerus	33 (19.08)
Ulna	1 (0.58)
Femur	53 (30.64)
Tibia	4 (2.31)

Table 5 Prostate cancer with hip bone metastasis, 140 cases.

Metastasis in hip bone	Cases (%)
Ilium	22 (15.71)
Ishcium	14 (10)
Pubic	32 (23.86)
Acetabulum	27 (19.29)
Pubic symphysis	3 (2.12)
No specific	42 (30)

Table 6 Relationship between Gleason score and metastatic condition, 74 cases, serum PSA levels and metastatic condition, 101 cases.

Variable	Bone scan	Bone metastasis
Gleason score	(cases)	(cases, %)
2 – 4	27	10 (37.04)
5 – 7	33	52 (39.29)
8 – 10	74	52 (70.27)
PSA levels (ng/ml)		
≤ 4	2	1 (50)
5 - 10	25	10 (40)
11 - 50	69	31 (44.93)
51 - 99	39	24 (61.54)
≥ 100	101	88 (87.13)

Discussion

Recently, prostate cancer is the second most common cancer in men in worldwide. In contrast, its incidence is low in developing countries[1]. In Thailand, the incidence of prostate cancer is the fourth commonly diagnosed cancer in male, while liver and bile duct cancer is the first frequently diagnosed cancer in men[3]. In Srinagarind Hospital, the average of new cases with prostate cancer is 22 cases a year, from 1985-2008[4].

The majority of patients with prostate cancer are found above 50 years old and very few cases are found in young male. Accordingly, the risk of prostate cancer is highly after the age of 50 in white men, while black men is highly after 40 years old as similar as men with close relative with prostate cancer [5]. Early detection of prostate cancer is always good prognosis. Normally, the serum PSA level is ranged between 0 to 4 ng/ml but these series have highly mean serum PSA level (59.99 ng/ml). Moreover, the patients with high serum PSA levels (more than 100 ng/ml) were related to bone metastasis. However, high serum PSA levels may be possibly reflected from benign prostatic hyperplasia (BPH) or prostatic inflammation. In 1994, the U.S. FDA has approved the PSA testing for early diagnosis of prostate cancer. Besides, it plays dramatic role in detectable metastasis[6]. Approximately 95% of prostatic neoplasm is adenocarcinoma type that developed from the glandular cells. In addition, it has clinically silent, not shown specific symptoms and sometime its symptoms are as similar as BPH symptoms. Thus, most patients may be detected prostate cancer with any organ metastasis[7]. However, the appropriate for prostate cancer management may be adjusted patient by patient[8].

In this series, there were 195 (67.94%) of 287 cases which involved with bone metastasis. The bone of pelvic girdle (hip bone) is the most common sites for metastasis of prostate cancer. In solid tumors, molecular mechanisms are responsible for the development to bone metastasis that closely related to bone microenvironment. Metastatic prostatic cancer cells spread via venous system[9] and contribute to produce osteolytic and/or osteoblastic phenomena[2] with the interaction of bone triggers. This series found that the patients with high Gleason score were detected the evidence of metastases to skeleton, especially hip bone. Correspondingly, several studies have confirmed that Gleason score is the strongest prognostic factor of cancer progression[7, 10-12].

The limitation of this study was a retrospective study. Some important data was unfollowable. Further research should be emphasized to treatment modality a longterm.

Conclusion

In summary of prostate cancer in Srinagarind Hospital, the most patients with prostate cancer are diagnosed above 50 years old and the average of serum PSA levels was highly (59.99 ng/ml). In addition, hip bone was the most common metastasis.

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