Stage T2 Prostate Cancer Presented with High Serum Prostate Specific Antigen and Nonspecific Bone Lesions

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INTRODUCTION

The crucial elements for the diagnosis of the prostate cancer (PCa) are prostate-specific antigen (PSA), digitorectal examination (DRE), transrectal ultrasound (TRUS) and TRUS-guided prostate biopsy. Today, the limitations and sensitivity of all diagnostic procedures are well known: the sensitivity of PSA 4.0ng/ml to discover PCa is 57%, and in the level of PSA 10.0ng/ml, only 23%. High levels of PSA are common in benign prostatic hyperplasia (BPH), chronic and acute prostatitis, and prostate infarction, generally, in all conditions followed with the destruction of prostatic tissue. Even 3% of patients with BPH have serum PSA greater than 10.0ng/ml. The sensitivity of TRUS is about 50-60% and of DRE much lower. Posterolateral TRUS biopsy of the prostate with 13-18 cores increased the detection rate by 35%, when compared to standard sextant biopsy, but also have to be repeated, one, two or three times.

Moreover, preoperative staging of the disease is also uncertain. It is accepted today that patients with clinical stage = T2a and serum PSA 10ng/ml have the risk for seminal vesicle involvement; the patients with stage = T2a and serum PSA 20ng/ml have the risk for nodal involvement.

However, repeated and used in combination, these diagnostic tools are sufficient in diagnosis, preoperative staging and the management of the PCa. Multicenter clinical trials and recommendations are used today as guidelines in the whole world.

PATIENT REPORT

The 65-years old patient presented with urinary catheter and high serum PSA: 30.7ng/ml, in April 2006. Urinary catheter was inserted 10 weeks ago, and was replaced every two weeks. The patient was in good condition, with no other co-morbidity. Thirty years ago, he had a car accident in Africa, with the contusion of the thorax, when he was in bed for several weeks.

Digitorectal examination revealed medium sized prostate, painless, well limited, with discrete induration in the right lobe, involving less than half of a lobe.

Transrectal ultrasound (TRUS) was performed and it revealed limited prostate, with the volume of 38ml. Peripheral zone was hyper-echoic, symmetric and without focal changes. Transitional zone was hyperplastic, with lot of small hypo-echoic areas in the both lobes. There were no changes in seminal vesicles. The extended posterolateral TRUS-guided biopsy was performed, and 18 cores were taken on the next scheme: five right lateral cores, from the base to the apex, two median cores and two juxtaurethral cores, i.e. nine cores per lobe.

Pathological report was: acinar adenocarcinoma gradus II, Gleason score=6(3+3), only in the 1.5mm of 35mm of tissue (4.3%) in the right lateral specimen. There were no perineural or vascular invasion. The preliminary stage after biopsy was T2a, and high PSA understood as a result
of cancer plus prostatitis action. There was no hurry to perform bone scan immediately. Abdominal ultrasonography and pelvic computed tomography (CT) revealed normal finding.

After the biopsy, together with the antibiotic prophylaxis (ciprofloxacin 1000mg daily plus metronidazole 1200mg daily), the patient started with super-selective alfa-1a antagonist. One week after biopsy, urethral catheter was removed, but reinserted on the same day, due to high residual urine, over 500ml. Second catheter removal was successful, and the patient voided spontaneously, with the residual urine of 50ml.

Serum PSA was taken the day before catheter removal and after two weeks, with values of 19.2ng/ml and 18.1ng/ml, respectfully. However, because of the proximity of the biopsy, PSA was repeated after two weeks (six weeks from biopsy): the result was disappointing: 23.1ng/ml! The next PSA, nine weeks after biopsy, was even higher: 25.9ng/ml.

After that, the bone scan was performed and revealed suspect areas in the both scapulas and areas in the left VIII rib and left IX rib, that could be posttraumatic lesions, as well. (Fig 1.)

The bone scan was repeated after one month, and revealed suspect areas in the left scapula, left VI rib and right V rib, with the equal possibility to be metastatic and posttraumatic. The level of alkaline phosphatase was normal, all the time.

Finally, monochormonal antiandrogen therapy with cyproterone-acetate was started, with the dose of 200mg of Androcur®. After one, two and three months, PSA dropped on 4.3ng/ml, 1.8ng/ml and 1.6ng/ml, respectfully. Bone scan was repeated and revealed no change, compared with the previous bone scan, three months earlier. This was accepted as an encouraging sign, leading toward benign bone lesions. Chest x-ray revealed osteosclerotic lesions in the ribs. (Fig 2)

Unfortunately, in the same time, toxic hepatitis developed, with the 10-fold rise of the transaminases, and the patient was hospitalized on the gastroenterology, department for hepatology. Androcur® was withdrawn immediately. Together with the normalization of liver functions, PSA continued to rise on 7.6ng/ml and 12.4ng/ml, one and four months after the withdrawal of the antiandrogen. Magnetic resonance imaging (MRI) was made and revealed lesions in the thorax, most probably of benign nature. (Fig 3, Fig 4.)

The patient underwent radical retropubic prostatectomy (RPR), with the final pathological report: adenocarcinoma of the prostate, gradus II, Gleason score=5, stage T2cN0, with the negative surgical margins. Serum PSA one, three and six month after the surgery are 0.1ng/ml. The patient is in good condition and continent during the day and night.

**DISCUSSION**

The case is interesting because the patient had prostate cancer with high serum PSA level and the bone lesions, which suggested disseminated disease.
Initial PSA of 30.7 ng/ml was the reason for prostate biopsy; perhaps, it was reasonable to repeat PSA prior to biopsy, or to try to remove the urethral catheter prior to biopsy, but there were no signs of prostate inflammation at the first visit. Therefore, the PSA value of 30.7 ng/ml was, probably, the sum of cancer plus inflammation action, during the prolonged catheterization.

In addition, the first PSA measurements were relatively close after the biopsy and they could have represented unsolved consequences of the post-biopsy tissue destruction. (Fig 5.)

After the continuous PSA rise and suspect and partially inconclusive bone scan, the authors’ decision was to start with antiandrogens for several reasons: to start the treatment and to see if lesions on the bone scan will change or not, after the PSA normalization. When bone scan showed no regressive changes after PSA dropped on 4.3 ng/ml, than on 1.8 ng/ml, it was more likely that bone lesions were of benign nature, which was proved on MRI.

Furthermore, after the antiandrogen withdrawal, PSA raised to 7.6 ng/ml, and 12.4 ng/ml, which was, most probably, the real PSA value.

Finally, PSA values of 0.1 ng/ml after RRP are the most significant proof that there is no prostatic tissue remained and that the indication for RRP was correct.

CONCLUSION

Although the nomograms and guidelines today offer a great help in the decision of the right treatment option of prostate cancer, wrong decisions could be made in some situations.

In this case, the 65-years old patient with prostate cancer, PSA over 30 ng/ml and bone lesions could have been staged and treated like the disease with the dissemination in the bones.

SUMMARY

KARCINOM PROSTATE U STADIJUMU T2 SA VISOKIM VREDNOSTIMA PROSTATA SPECIFIČNOG ANTIGENA I NESPECIFIČNIM PROMENAMA NA KOSTIMA.

Cilj rada: Prikazati slučaj bolesnika sa karcinomom prostate (CaP) u stadijumu T2, koji je pri prvom dolasku shvaćen kao diseminovana bolest, a kasnije je uspešno lečen pomoću radikalne retropubične prostatektomije (RRP).

Bolesnik i metode: Bolesnik je imao vrednost prostatata specifičnog antigena (PSA) preko 30 ng/ml i multiple atipične promene na scintigrafiji skeleta. TRUS biopsija prostate je dokazala prisustvo malog CaP, samo u 1/18 isečaka biopsije, sa Glisonovim skorom od 6 (3+3). Posle detaljne dijagnostike, promene na kostima su proglašene za postranatske.

Rezultat: Kod bolesnika je uradjena RRP. Šest meseci posle operacije nema znakova recidiva bolesti.

Zaključak: Nivo PSA u serumu predstavlja zbir aktivnosti tumora, normalnog i hiperplastičnog tkiva prostatate i drugih patoloških stanja, kao što je prostatitis. U nekim slučajevima, prostatitis može da bude odgovoran za visoki nivo PSA i grešku pri određivanju stadijuma bolesti.

Ključne reči: prostata, kancer, PSA

REFERENCES


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