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Case Report

Small Cell Carcinoma of Prostate: Case study and review of the literature

Selcuk Sarikaya[1], Ridvan Ozbek[1], Cagri Senocak[1], Gulcin Guler Simsek[2], Omer Faruk Bozkurt[1], Oztug Adsan[3]

[1]Department of Urology, Kecioren Research and Training Hospital, Ankara, Turkey

[2]Department of Pathology, Kecioren Research and Training Hospital, Ankara, Turkey

[3] Department of Urology, Tobb Etu Hospital, Ankara, Turkey

***Corresponding author:** Selcuk Sarikaya, Department of Urology, Kecioren Research and Training Hospital, Sanatoryum Caddesi, No: 25/C, Kecioren – Ankara / Türkiye, Tel: +905316274819, Email: drselcuksarikaya@hotmail.com

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Abstract

Small cell carcinoma(SCC) of prostate is a rarely seen agressive tumor. Generally, SCC of the prostate is symptomatic at diagnosis unlikely adenocarcinoma. In our study, 81 year-old male patient was admitted to our clinic with obstructive symptoms and dysuria. Transurethral resection of prostate was performed for the patient due to the obstructive symptoms. The pathology result was; small cell carcinoma of prostate. The patient was consulted to medical oncology for chemoterapy. There is still no standart treatment fort his pathologic entity.

Keywords:

Carcinoma; Prostate; Small cell

Introduction

Small cell carcinoma(SCC) of prostate is a rarely seen agressive tumor [1,2]. It accounts for 0.5-2% of all prostate cancers.[3]SCC usually originates from lung but sometimes it may originate from different sites outside the lung that is called extrapulmonary small cell carcinoma [4]. Generally, small cell carcinoma of the prostate is symptomatic at diagnosis unlikely adenocarcinoma [3]. Usually there are obstructive, neurologic symptoms and also symptoms related with paraneoplastic syndroms or metastasis would be seen [1,3,5]. In this study we aimed to present the case with small cell carcinoma of prostate, the treatment and follow-up results of the patient.

Case

81 year-old male patient was admitted to our clinic with obstructive symptoms and dysuria. The patient didn't benefit from the alpha-blocker treatment and according to the uroflowmetry result, maximum flow rate was 9.5 ml/sn, average flow rate was 5.1 ml/sn. According to the ultrasonography result, prostate was 55 gr, upper urinary tract was normal. Total PSA level was 0.4 ng/ml. Digital rectal examination revaled average-size prostate and wide-spread nodules for both lobes. Transurethral resection of prostate was performed for the patient due to the obstructive symptoms. The pathology result was; small cell carcinoma of prostate, lymphovascular invasion^{+}, chromogranin^{+}, synaptophysin^{+}. Chromogranin level was 165nmol/l, Calcitonin level was 2ng/l, ACTH level was 22.3pmol/l, CEA level was 6.03ng/ml. The histopathologic examination revealed diffuse infiltrative, single-cell or group patterns with minimal cytoplasm and nuclear molding.(Figüre 1) Immunohistochemical study revealed; EMA$^{(+)}$, PSA$^{(-)}$, AMACR$^{(-)}$, CK7$^{(-)}$, CK20$^{(-)}$, Chromogranin$^{(+)}$, Synaptophysin$^{(+)}$, TTF1$^{(-)}$. According to postoperative thorax computerised tomography, there were bilateral fibrotic changes in the apical lung area and spesific patchy opacities. Also according to abdominal computerised tomography, multiple hypodense lesions compatible with metastasis in the liver and pancreas.(Figure 2) Positron emission tomography

revealed involvements in prostate gland, bladder and rectum compatible with the invasion of primary pathologic focus, involvements in bilateral internal iliac, bilateral common iliac, presacral, parailiac and right external iliac lymph nodes and in liver, surrenal glands, bone tissue compatible with metastasis. (Figure 3) Bone scan revealed metastatic involvements in left 8-10 costovertebral junctions, 1st and 11th costa, 9th vertebral. After the examinations, the patient was consulted to medical oncology for chemoterapy.

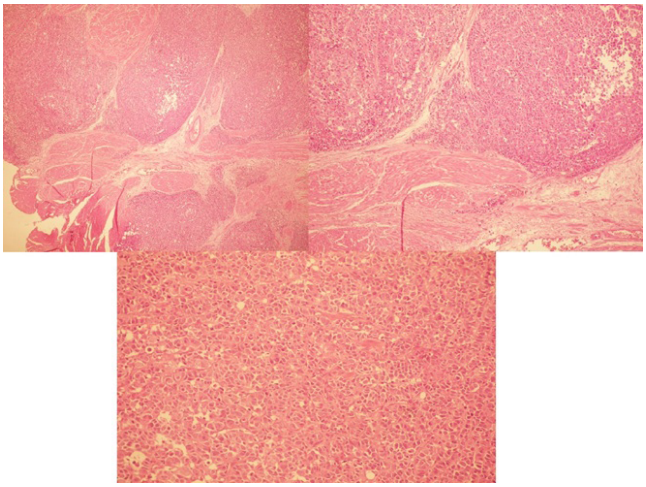

Figure 1: Diffuse infiltration to muscle layer / Single-cell and group pattern/ Nuclear molding. EMA(+), PSA(-), AMACR(-), CK7(-), CK20(-), Chromogranin(+), Synaptophysin(+), TTF1(-).

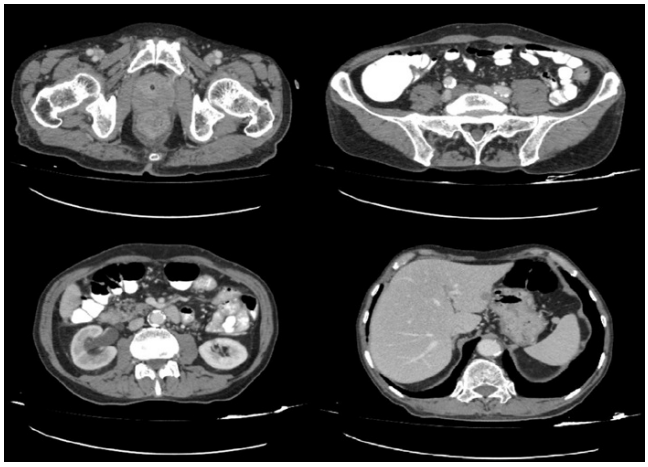

Figure 2: Computerised Tomography.

Discussion

Prostate is one of the most extrapulmonary site of small cell carcinoma [6].Small cell carcinoma of prostate is poor-prognosis tumor prone to early systemic metastasis and mostly diagnosed at advanced stage [7]. Most of the patients are in advanced stage when they are diagnosed [7]. Some cases were reported to be diagnosed as 'Gleason pattern 5' in the literature [6-8]. In some cases symptoms related with ACTH production were reported [5,9]. Also KIT, pan-cytokeratin, p53, Ki-67, PSA(prostate spesific antigene), alpha-methylacyl-CoA racemase and PDGFRA(platelet-derived growth

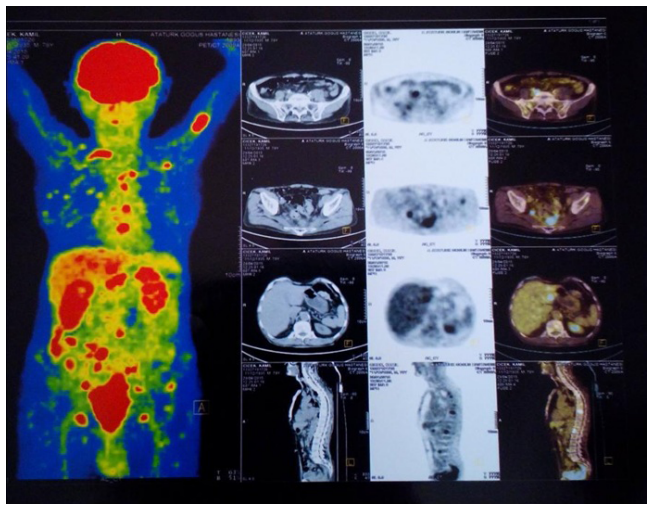

Figure 3: Positron Emission Tomography.

factor-α) gene mutations were reported for some cases [10,11]. Neuron-spesific enolase(NSE) levels would be elevated of the patients [12]. PSA levels are lower and in normal range for most of the patients [3,5,13]. Computerised tomography(CT) and positron emission tomography (PET) would be used for imaging [5]. During the histopathologic examination, argentaffin or argyrophil cells would be seen [9].The classic morphology is 'oat cell' morphology [14]. Urogenital small cell carcinomas are usually high grade and poor differantiation [4]. They have poor prognosis and survival is less than 1 year for most of the cases [4].There is no standart treatment for now [12]. Chemoterapy and radiotherapy would be used for treatment. Cisplatin and etoposide are common recommended chemotherapeuticsand sometimes doxorubicin would be added [3,15]. Extrapulmonary small cell cracinomas are less chemosensitive than pulmonary small cell carcinomas [4]. Successful treatments were reported in the literature. Also for local disease radiotherapy would be used for treatment. In our study, patient was diagnosed as small cell carcinoma with multiple metastases and after the diagnosis the patient was consulted to medical oncology for chemotherapy.

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