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Case Report
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# Prostate Adenocarcinoma Presenting with Giant Shoulder Mass in a Young Man

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## Abstract

The rising incidence across all ages made prostate cancer the most commonly diagnosed non-cutaneous cancer in men. As a result of increase in PSA screening worldwide, detection of prostate cancer in younger patients becomes more often. Metastatic disease is associated with poor prognosis especially in younger patients. Unusual presentations should not mislead clinicians and refrain from omitting prostate cancer as the most frequent cancer in men. Timely treating with chemo- and hormonal therapy will contribute to patients' survival time and quality of life. Here in we report a young man who presented with a giant shoulder mass mimicking sarcoma which was concluded as prostate adenocarcinoma.

**Keywords: Prostate adenocarcinoma; Sarcoma; Shoulder mass**

## Introduction

Prostate cancer is among the most common cancers in men worldwide, with an estimated 1,600,000 cases and 366,000 deaths annually and most commonly diagnosed non-cutaneous cancer in men across all ages [1]. Prostate cancer tends to grow so slowly that most men die of other causes before the disease becomes clinically advanced. As indicated in autopsy series, where prostate cancer is detected in approximately 30 percent of men age 55 and approximately 60 percent of men by age 80, prostate cancer do not become clinically evident [2]. Early-onset prostate cancer that is prostate cancer diagnosed at age ≤55 years is rare with a rate of 10% [3]. Although the median age of prostate cancer diagnosis has shifted toward younger ages, decreasing from 72 years in 1986 to 67 years in 2009 as a result of screening serum prostate specific antigen (PSA) levels [4]. Prostate cancer in young men tends to behave more aggressive than men diagnosed at an older age. On the other hand those diagnosed at a young age have less comorbidity as well and disease unrelated death rates are lower in younger metastatic prostate cancer patients compared to older counterparts [5]. The five-year relative survival is 100 percent in patients with localized prostate cancer but 29.3 percent among those diagnosed with distant metastases [6]. Here, we report a young man who was diagnosed prostate adenocarcinoma presented with a giant shoulder mass mimicking sarcoma.

## Case Presentation

A 49-year old man was admitted with a right shoulder mass and pain occurred 4 months ago. Physical examination revealed the painful mass, restricting the locomotion of right shoulder. A magnetic resonance imaging showed a destructing right scapular mass with soft tissue invasion (Figure 1). Fine needle aspiration biopsy revealed malignant cytology consistent with metastatic adenocarcinoma (Figure 2). The PSA level was 300 ng/ml. 18-FDG PET-CT revealed pathologic activity at vertebral column and hypermetabolic masses in prostate gland, paraaortic region and right shoulder. The patient was diagnosed as 'metastatic prostate cancer'. Radiotherapy was given to right shoulder mass and thoracal 7-8. vertebrae. Antihormonal treatment with goserelin, bicalutamide and zoledronic acid were begun. Bicalutamide was stopped after 1 month of treatment. Pain on the shoulder regressed and MRI showed shrinked shoulder mass in a 6 months manner. The control level of PSA reduced to 0,35 ng/ml. After 10 months of treatment bone pain increased, bone scintigraphy, chest and abdominal computerized tomography scans and right shoulder MRI showed disease progression at bones however PSA was 1.1 ng/ml and total testosteron was < 20 ng/dl. There was no response to bicalutamide re-treatment and patient was accepted as castrate

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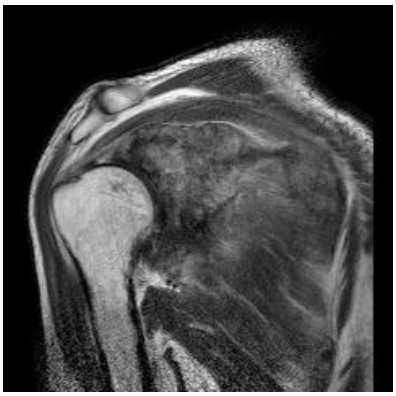

**Figure 1:** A coronal T-1 weighted image shows the soft tissue mass on the right shoulder.

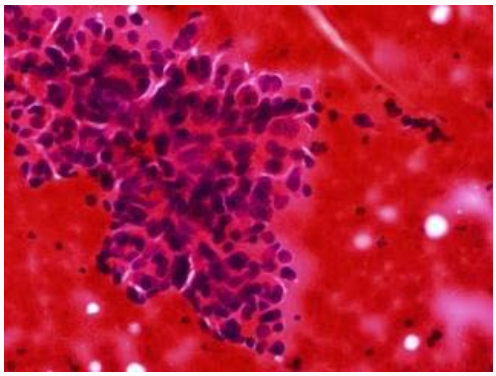

**Figure 2:** Fine needle aspiration biopsy showed malignant epithelial cells with hyperchromatic, pleomorphic nuclei and high nuclear-cytoplasmic ratio (HE, x40).

resistant. Docetaxel and prednisone was begun and gosereline and zoledronic acid was continued. He had stable disease at the end of 10th cycle of docetaxel and chomtherapy was stopped after 10 cycle. Gosereline and zoledronic acid were continued. Disease progression occurred at bones and lungs after 11 months from the last chmotherapy. Cabazitaxel treatment with primary prophylaxis of filgrastim was begun for metastatic castrate resistant prostate cancer beyond progression after docetaxel chmotherapy. He received 3 cycles of cabazitaxel after progression but was lost due to neutropenic fever afetr the 3rd cycle of cabazitaxel. The patient lived 30 months from the diagnosis of prostate cancer.

## Discussion

In this report, we presented a case of metastatic prostate adenocarcinoma presenting with a giant soulder mass mimicking sarcoma. This patient lived 30 months from the diagnosis of metastatic prostate carcinoma with a lower survival duration compared to older metastatic prostate cancer patients. This patient was treated with the evidence based treatment options with current data in related dates between 2011 and 2014. However literature data on metastatic prostate changes rapidly in last 3 years.

For the male patients presenting a metastatic mass, serum PSA level and the ratio of free PSA/total PSA should be determined; if necessary, immunohistochemical (IHC) staining for PSA and P504S should be done from the metastatic mass [7]. It is recommended that older than 40 years old men with an adenocarcinoma or carcinoma not otherwise specified, should undergo a PSA test. Especially male patients presenting with bone metastases or multiple sites of involvement should have PSA levels assessed regardless of age [8]. The PSA value contributes significantly to the diagnosis of prostate cancer. As in our case, for the patients with bone metastases and palpable tumors in addition to the high levels of PSA (>100 ng/ml), prostate gland biopsy is not necessary for the diagnosis. 18-fluorodeoxy glucose PET scan is not recommended for protate cancer staging. However it might help to discriminate extra-prostatic tumors. It might also have value in metastatic prostatic cancers with high proliferation index. In 2013, hormonal manuplation was present for the definition of castrate resistant prostate cancer. But in 2014 it was removed from EAU guideline and other guidelines due to entrance of new antiandrogen and androgen biosynthesis inhibitor treatments into clinical practice.

After 2015; our practice has changed in newly diagnosed metastatic prostate cancer especially in patient with high volume disease. This practice changing data have come from CHAARTED and STAMPEDE tiral results; respectively [9,10]. Docetaxel was shifted to earlier phase of metastatic prostate cancer which was endocrine treatment naïve with 6 cycles of treatment and with or without oral prednisone addition. And now in year 2017 abireterone showed a similar efficacy in newly diagnosed, hormonal treatment naïve metastatic prostate cancer patients with a high quality of life data with LATITUDE trial results [11]. Trials testing new generation antiandrogens are on the way for newly diagnosed endocrine treatment naïve metastatic prostate cancer [12,13].

Metastatic prostate adenocarcinoma is often responsive to hormone therapy; namely androgen deprivation treatment for past days and new androgen biosynthesis inhibitor abireterone recently and highly probably new generation antiandrogens for near future. However old friend; docetaxel contributed to survival rates of newly diagnosed metastatic prostate cancer patients' for last 2 years.

## Conclusion

Unusual presentations of metastatic prostate carcinoma should not mislead clinicians. Metastatic prostate adenocarcinoma might be with poor prognosis in younger patients. Evidence of treatment options for metastatic prostate cancer is changing rapidly.

## Authors' Contributions

FDK: Conception and design, interpretation, manuscript writing, critical revision and final approval of the manuscript.

CA: Conception and design, interpretation, manuscript writing.

OT: Manuscript writing.

EEP: Achieve and interpret the figures.

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