Paratesticular Metastasis of High Grade Prostate Cancer Clinically Mimicking Hemato/Pyo-hydrocele

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Abstract

Secondary metastatic lesions of the testicles are very rare and they originate mainly from prostate adenocarcinoma. They are generally diagnosed incidentally, however, they very rarely manifest as a palpable testicular mass. In this paper, we present a case of paratesticular metastasis from high-grade prostate cancer clinically mimicking pyo-/hemato-/hydrocele. A 75-year-old man, who had been followed up elsewhere for a huge hydrocele based on scrotal Doppler ultrasonography and scrotal magnetic resonance imaging reporting no suspicion for malignancy, but a pyo-/hemato-/hydrocele was determined to have testicular metastasis originating from prostate adenocarcinoma.

Keywords: Hydrocele, testis, neoplasm metastasis, prostate, adenocarcinoma

Introduction

Being a very rare situation with the incidence of 3.3% in all testicular tumors, testicular metastases originate mainly (up to 42-60%) from prostate adenocarcinoma and they are generally diagnosed incidentally with surgical castration for prostate cancer (1,2).

However, it very rarely manifests with a palpable testicular mass in men admitted to urology clinics for lower urinary tract symptoms or predetermined high prostate specific antigen (PSA) values (1,3). Likewise, paratesticular metastases also have been reported to be mainly originating from prostate cancer and, with lesser frequency, from gastrointestinal malignancies (4).

In this paper, we present a patient with huge hydrocele clinically mimicking pyo-/hemato-/hydrocele who was determined to have a malignant hydrocele secondary to paratesticular metastasis originating from prostate adenocarcinoma.

Case Presentation

A 75-year-old man was referred to our urology clinics for prostate biopsy because of his high and recently significantly increased PSA levels. His past medical history was uneventful other than transurethral resection of the prostate and synchronous ileus operation with appendectomy. He had been previously followed elsewhere with PSA levels which were 0.57 ng/mL in August 2007, 1.40 ng/mL in January 2010, 4.31 ng/mL in August 2014 and 15.34 ng/mL in April 2015. His physical examination revealed...
bilaterally firm and nodular prostate with digital examination and huge firm hydrocele not permitting evaluation of the left testicle, and minimally atrophic right testicle. The patient has been elsewhere prescribed antibiotics for pyo-/hemo-/hydrocele after clinical evaluation with scrotal Doppler ultrasonography, scrotal magnetic resonance imaging (MRI) and biochemical studies including α-FP, β-hCG and lactate dehydrogenase (LDH). Scrotal ultrasonography performed for scrotal pain nine months ago revealed that the left testicle was atrophic without any solid or cystic lesion within the scrotum. However, a recent scrotal ultrasonography performed for enlarged left scrotum suggested 5x7 cm wide pyo-/hemo-/hydrocele which included echogenic particles and was surrounded by thin rim of tissue having poor blood flow with Doppler examination. The left atrophic testicle was deviated to inferomedial aspect of the cystic lesion. Scrotal MRI revealed an atrophic left testicle measuring 24x24x10 mm in size with a 48x60x81 mm minimally heterogeneous contrast-enhanced lesion with medially large cystic cavity fulfilling the left hemiscrotum suggesting an infected epididymal cyst or intrascrotal abscess-related lesion (Figure 1). His biochemical studies including α-FP, β-hCG and LDH were within the normal limits.

Though not confirmed radiologically, the left hydrocele was suspected of being malignant hydrocele. Therefore, radical inguinal orchiectomy together with 12-core transrectal ultrasound-guided prostate biopsy was performed. Macroscopic examination of the radical orchiectomy revealed a cystic wide cavity with tumoral mass inferiorly deviating to the atrophic testicle (Figure 2).

Histopathological examination of the prostate biopsy specimens revealed Gleason pattern 5+4 prostate adenocarcinoma in all biopsy cores. Histopathological examination of the radical orchiectomy specimens demonstrated metastatic adenocarcinoma of the prostate showing reactivity with PSA and keratin without any positive reactivity with calretinin, CD117, CD30, vimentin, inhibin, octamer-binding transcription factor 3/4 or placental-like alkaline phosphatase (Figure 3). Thereafter, the patient was clinically staged as T2cN0M1c with thoraco–abdominal computed tomography (CT) and whole body bone scan. CT showed minimally increased ascites and suspicious omental thickening suggesting peritoneal carcinomatosis. The patient underwent an ultrasound-guided needle aspiration of ascites which was found to contain malignant epithelial cells. Then, right scrotal orchiectomy was performed to provide surgical castration for metastatic prostate cancer and the patient was referred to the medical oncology department.
for earlier chemotherapy. The patient gave written informed consent for publication of the clinical and surgical images.

**Discussion**

Testicular and paratesticular metastases have been shown to originate mainly from prostate adenocarcinoma (1,2,4). In addition, they are generally diagnosed incidentally during surgical castration for prostate cancer. Very rarely, they manifest with a palpable testicular mass and these cases are usually solitary, unilateral tumors simulating primary neoplasms (1,3). Our case was interesting in that recently developed, firm huge hydrocele simulating pyo-/hemato-/hydrocele, radiologically raised clinical suspicion of malignant hydrocele resulting from primary testicular neoplasm or paratesticular primary neoplasms in the setting of atrophic testis. Therefore, we performed left inguinal radical orchiectomy. Histopathological examination revealed metastasis from poorly differentiated prostate cancer. Our case was with unilateral metastasis as generally encountered in such cases (1). However, in the literature, bilateral testicular metastases originating from prostate adenocarcinoma have also been reported (5,6). These metastases, either as incidental or palpable mass, may be synchronous or metachronous in accordance with timing related to the diagnosis of the primary tumor (1,2,3,5,6,7,8,9,10).

In this case presentation, once again it is confirmed that clinical suspicion and thorough physical examination is a must in the management of the condition. Although rare, in case of suspicious hydrocele formations, any testicular or paratesticular metastases should be ruled out in the follow-up of prostate cancer patients.

**Ethics**

Informed Consent: It was taken.

Peer-review: Externally peer-reviewed.

**Authorship Contributions**


Conflict of Interest/Financial Disclosure: No financial or commercial interests from any drug company or others were taken and there is no relationship of authors that may pose conflict of interest.

**References**