

Case Report

A case of suprapubic cutaneous metastasis from prostatic adenocarcinoma

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Abstract: Background: Prostate cancer is a commonly diagnosed and treated malignancy, although it rarely presents with cutaneous metastases. In this case report, we describe the diagnosis and treatment with radiotherapy and endocrine therapy of a patient who presented with suprapubic cutaneous metastases secondary to prostate cancer. Case report: A 77-year-old man presented with a six-month history of an asymptomatic suprapubic mass. A skin biopsy of the mass was performed and neoplastic cells consistent with metastatic prostatic adenocarcinoma were seen according to immunohistochemical techniques. Receiving pelvic radiotherapy and endocrine therapy (bicalutamide and goserelin), the patient recovered well and discharged. Discussion: In this report, a rare metastatic manifestation of a common malignancy is presented. Due to the low incidence, the majority of urologist and dermatologist are difficult to diagnose. An accurate diagnosis often requires vigilance, and confirmation by immunohistochemistry. Treatment after diagnosis is mainly dependent on the treatment of primary disease: endocrine therapy, aiming to maximal androgen blockade.

Keywords: Prostate cancer, metastasis, cutaneous metastasis, radiotherapy, endocrine therapy

Background

Prostate cancer is one of the male urogenital cancer with significantly higher incidence in China. Secondary deposits associated with prostatic adenocarcinoma are located with predilection in the bone system. More than 80% of prostate cancer patients with bone metastases result in a serious decline in the quality of life of patients [1, 2]. Metastatic prostatic adenocarcinoma in skin and subcutaneous tissue is very rare, with the incidence rate of about 1% [3, 4]. No such case reports are searched in Chinese literature, with only one case reported by He in English literature [5].

Case report

A 77-year-old man presented with a six-month history of an asymptomatic suprapubic mass. It consisted of a red plaque of 4*4 cm diameter, in which there was a convex mass of 1.5 cm diameter (**Figure 1**). His prostate gland was enlarged, hard and irregular. The patient had been diagnosed in June 2007 with stage II bladder urothelial carcinoma.

After the admission, examination of tumor markers saw TPSA 24.00 ng/ml, F/T 0.05, CEA 7.29 ng/ml. After bowel preparation, ultrasound-guided transrectal prostate biopsy was operated. Pathological examination revealed differentiated acinar prostatic adenocarcinoma (Gleason score 3+3=6). A skin biopsy of a cutaneous mass was performed and neoplastic cells consistent with metastatic prostatic adenocarcinoma were seen according to immunohistochemical techniques (positive staining for cytokeratin, PSA and Ki-67) (**Figure 2**). Receiving pelvic radiotherapy and endocrine therapy (bicalutamide and goserelin), the patient recovered well and discharged.

Discussion

Cutaneous metastases from prostate cancer are usually singly isolated, not complicated by systemic symptoms. The incidence of various cutaneous parts differs. Penis and groin areas are the highest (23%), followed by the head and neck (16%), chest (14%), extremities (10%) and back (9%) [6].

A cutaneous metastasis from prostatic adenocarcinoma



Figure 1. The asymptomatic suprapubic mass of the patient (lesions in red circle).

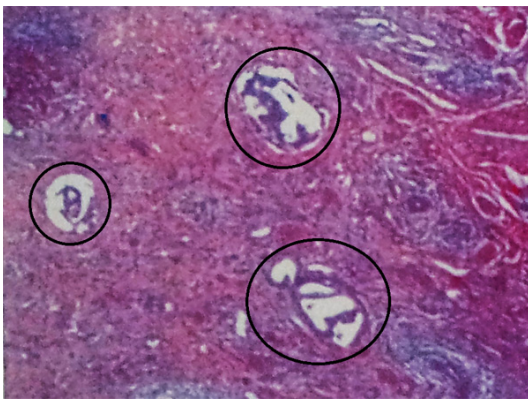


Figure 2. Immunohistochemical staining of the skin biopsy (HE staining, pathological changes in black circles).

Regularly showing multiple sclerosis or nipple, metastases often do not form ulcers [7, 8]. Lesion type of metastatic sites reported in the literature include angiosarcoma, cellulitis, Paget's disease of the breast, sebaceous cyst, Sister Joseph nodular basal cell carcinoma and morphea [9].

Clogged lymph duct causing small thrombus reflux disorders and resulting in tumor cells remaining in the skin are the main mechanisms of cutaneous metastasis. Immunohistochemical examination also found metastatic tumor cells and thrombus within the lesion. In patients without history of prostate cancer, general performance of skin lesions is not very different from that of the lymphatic vascular lesions or skin inflammatory changes.

Although cutaneous metastasis may be the first manifestation of prostate cancer, in the

majority of cases, the symptoms of skin cancer metastasis are advanced with poor prognosis and tumor-specific survival time lower than six months [10, 11]. We should be vigilant to skin lesions in patients with prostate cancer, taking account of the possible metastasis of the skin, and strive to achieve early detection, early diagnosis and early treatment.

Cutaneous metastasis is not difficult to be diagnosed by history, physical examination, laboratory tests and pathological examination. However, some patients had metastases without the history of prostate cancer. At this point you need immunohistochemical techniques to assist in diagnosis.

The most commonly used two indicators of prostate cancer in serological and chemical aspects are the prostate-specific antigen (PSA) and prostatic acid phosphatase (PAP). PSA is the first choice, while in cases difficult to diagnose, PAP immunohistochemical staining technique is needed [12].

In addition, poorly differentiated neuroendocrine small cell lung cancer may also lead to elevated PSA or PAP [13]. Then neural cell adhesion molecule (CD56), chromogranin and synaptophysin staining in immunohistochemical techniques are necessary to distinguish.

There is a close relationship between androgen and the growth of normal prostate cells and prostate cancer cell. Dihydrotestosterone converted from testosterone in the prostate tissue by 5 α -reductase promotes growth of both normal prostate tissue and prostate cancer cell. Since Huggins and Hodges first proposed palliative effect of endocrine therapy in metastatic prostate cancer in the forties of last century, endocrine therapy has remained to be one of the most effective treatment for patients with metastatic prostate cancer, with the purpose to reduce or eliminate male hormones promoting the growth of the prostate. Although there have been reports that endocrine therapy may prolong survival in patients with metastatic prostate cancer, the main purpose is to alleviate the symptoms of metastatic prostate cancer, which is seen as palliative care.

Endocrine treatment of metastatic prostate cancer includes surgical castration and medical castration. Surgical castration contains bilateral

al orchiectomy, or bilateral adrenalectomy on basis of orchiectomy; medical castration works through the use of estrogen drugs, anti-androgen drugs or hormone-releasing hormone analogue (Luteinizing-hormone-releasing hormone, LHRH), including antagonists and agonists that block androgen production. Both castration effect means roughly the same. In a meta-analysis including 24 stage III clinical trials enrolling more than 6600 patients with locally advanced or metastatic prostate cancer, no significant difference was seen in overall survival after treatment of surgical castration, LHRH analogues, estrogen drugs or anti-androgen drugs [14].

With the use of LHRH analogues and non-steroidal anti-androgen drugs, maximal androgen blockade (MAB) can be brought out clinically. MAB therapy aims to completely block the effect of testosterone from testicles and adrenal glands on the prostate.

In summary, as one of the male urogenital cancer with significantly higher incidence in China, prostate cancer has a very low incidence of cutaneous metastases. Due to the low incidence, the majority of urologist and dermatologist are difficult to diagnose. The clinical manifestations are often similar to other skin diseases. An accurate diagnosis often requires vigilance, and confirmation by immunohistochemistry. Treatment after diagnosis is mainly dependent on the treatment of primary disease. Currently the most important therapy is endocrine therapy, including surgical castration and medical castration, often combined with the use of multiple drugs or surgeries and non-steroidal anti-androgen drugs, aiming to maximal androgen blockade.

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Disclosure of conflict of interest

None.

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