Penile Metastases from Prostate Cancer

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INTRODUCTION

The penis is an uncommon site for metastasis originated from the prostate cancer despite their proximity (0.3%). If develops, it usually presents as painless nodules in the glans penis.[1,2] Conservative management is generally advocated with emphasis on improving the quality of life.[3] Here, we present a case of a penile lesion which was diagnosed as metastasis from a prostate cancer.

CASE REPORT

An 80-year-old man presented to our surgical outpatient department in December 2007 with the complaint of bilateral palpable inguinal lymphadenopathy of 1 month duration. The patient had a history of circumcision 4 months earlier for a preputial growth. Histopathological report was indicative of squamous cell carcinoma of the penis. Tissue blocks were not available for review as the patient had come from a remote area. The patient had no urinary complaints. Ultrasonography of the groin showed bilateral inguinal lymphadenopathy. Fine needle aspiration from the nodes proved to be metastases, and the patient subsequently underwent a bilateral ilio-inguinal lymph node dissection. Histopathological evaluation of the lymph nodes revealed metastatic adenocarcinoma with 13 of 23 nodes positive on the right and 3 of 10 positive on the left side.

Retrospectively, the patient was clinically re-evaluated in search of a primary lesion. Digital rectal examination showed a moderately enlarged prostate, firm in consistency. Transrectal ultrasonography showed diffuse heterogenous and mildly altered echopattern of the prostate (hypoechoic), measuring 39 × 29 × 40 mm, involving both lobes of the prostate (T2c lesion). A subsequent guided biopsy confirmed prostatic adenocarcinoma with a Gleason score of 6. Serum level of prostate-specific antigen (PSA) was 8.29 ng/mL, and a whole-body isotope bone scan did not reveal any bony metastases. As further treatment was being planned, the patient developed a skin nodule on his glans penis and scrotal skin (Figure 1). Biopsy confirmed them to be prostatic metastases (Figure 2). Immunohistochemical examination of the lymph nodes and the penile nodule showed PSA and cytokeratin to be positive.

As the penile nodule was accompanied by severe pain and discharge, the patient underwent partial amputation with palliative intent in February 2008. Bilateral subcapsular orchiectomy was also performed in the same setting as a means for androgen ablation. Thereafter, the patient was asymptomatic on regular follow-ups.

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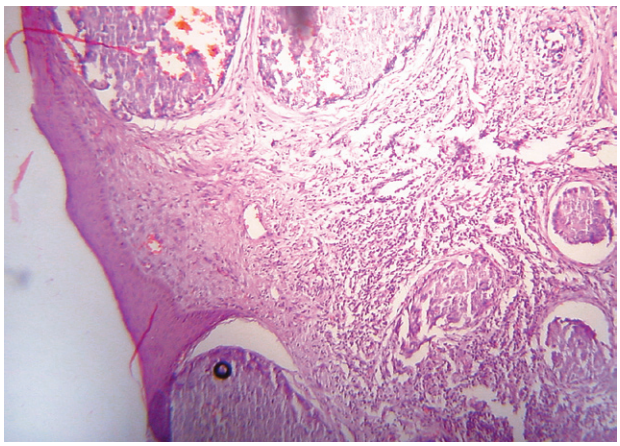

Figure 1. Microscopy shows adenocarcinoma in penis (hematoxylin-eosin, ×10).

Figure 2. Scrotal nodule is shown as metastasis of the prostate.

DISCUSSION

Metastatic spread of prostate cancer to the penis occurs by several routes.[4-7] Retrograde venous or direct lymphatic/vascular invasion and direct extension through the lumen of the vas deferens are the most common mechanisms. Involvement of the prostatic urethra by prostatic adenocarcinoma increases the likelihood of penile metastases.[8-10] It may also spread from the prostatic urethra into the inguinal, pelvic, or retroperitoneal lymph nodes.

Penile metastases from prostate cancer present as single or multiple skin nodules over the prepuce, glans, or the coronal sulcus. These lesions are hard in consistency. Pain may be an important clinical symptom. Other modes of presentation are urethral ulceration, local obstruction, priapism, and severe penile pain.[3]

Diagnosis is made by open biopsy in a known case of prostate cancer. Management of such cutaneous metastases without systemic spread has been challenging due to the rarity of the situation. Over the past years, various treatment modalities have been evaluated; however, none of them provides satisfactory results. Ninety-eight cases of penile metastases from carcinoma of the prostate were identified in the literature until 2003 with 4 more new cases till date.[11-14] However, all these patients were earlier diagnosed as cases of carcinoma of the prostate which later developed penile metastases. In our case, the patient never had any of the urinary symptoms suggestive of a prostatic disease and the penile lesions were the presenting feature which was very unusual and deceptive. Tu and colleagues reported a study on 12 such patients who were retrospectively analyzed.[2] These patients responded to androgen ablative therapy with median survival of 66 months. Ten of them received chemotherapy. The penile metastases appeared at a median of 50 months after the diagnosis. The PSA levels did not correlate with the burden of the disease. Even in our patient, the PSA level was elevated, but not in the metastatic range.

Treatment options depend on the general condition of the patient, site and extent of the primary tumor, presence of metastases, and symptoms. The patient should be treated as those with metastatic prostate cancer. Androgen ablation either by hormonal therapy (gonadotropin-releasing hormone analogues) or surgical orchiectomy is the initial treatment. Chemotherapy has also been tried with varying success rates. Amputation of the penis with urethrostomy formation is to be considered in the patients with ulceration, irritating secretion, and intractable penile pain.[15] In patients presenting with priapism, total penile amputation may be required. Management of the patients with penile metastases from carcinoma of the prostate should be focused on improving the quality of life in view of the poor prognosis. Hormonal therapy and chemotherapy should form the main line of management. Role of surgery is limited to relieving severe intractable pain and ulceration.

CONFLICT OF INTEREST

None declared.

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