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Case Report

Malignant Priapism Secondary to Bladder Cancer

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Priapism is prolonged penile erection without sexual stimuli that generally is related to medical treatment. Other causes of priapism are disorders such as sickle cell disease, leukemia and polycythemia, penile metastasis of tumors, pelvic thrombophlebitis, and neurological diseases such as spinal cord injury or idiopathy (Kvarstein, 1996). Malignant priapism is an uncommon clinical entity that describes prolonged erection due to an invasion of the corpora cavernosa by a malignant neoplasm.

Metastatic neoplasms of the penis are uncommon. The most common primary organs have been reported to be the bladder and prostate (Dubocq et al, 1998; Kotake et al, 2001). In the present report, a patient with priapism and hematuria was demonstrated to have transitional cell carcinoma (TCC) of the bladder complicated with penile, lung, and liver metastasis.

Case Report

A 47-year-old man was presented to our clinic with a 1-month history of priapism and a 1-year history of hematuria, left loin pain, and dysuria. Cavernosal irrigation had been performed for priapism at an outside center 1 month previously and was not successful. In his past medical history, he had a spontaneous passage of a left kidney stone 3 years previously and was a cigarette smoker for 20 years. On physical examination, the patient had an anemic appearance and a palpable liver and left kidney. The prostate examination was unremarkable. Laboratory data revealed hematocrit 23.3% and hemoglobin 8.2 g/dL. X-ray of the chest showed multiple metastases. Abdominopelvic computed axial tomography scan (CT) showed left hydroureteronephrosis secondary to invasion of the left distal ureter by a bladder tumor and invasion of the corpora cavernosa and the liver (Figure 1). Additionally, on thorax CT, multiple metastatic lesions were observed. Doppler ultrasonography showed a hypervascular solid lesion with a diameter of 2 cm at the base of the penis

and peak systolic flows were 41 cm/s in the right cavernosal artery and 43 cm/s in the left cavernosal artery. On cystoscopy, there was no evidence of tumor at the urethra, and there was a 5-cm broad-based solid tumor on the left side of the bladder involving the left ureteral orifice. Staging transurethral resection of the tumor was performed, and the histopathologic examination of the specimen revealed grade 2 TCC. The trucut biopsy specimens were taken from the corpora cavernosa, and histopathologic examination disclosed a metastasis of TCC (Figure 2). A left percutaneous nephrostomy catheter was inserted, and chemotherapy was offered for metastatic TCC. The patient refused any further treatment for his priapism and bladder tumor and died from brain metastasis 6 months later.

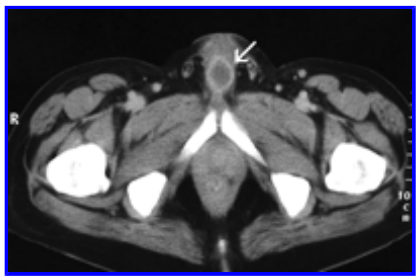

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Figure 1. CT demonstrates the invasion of the corpora cavernosa.

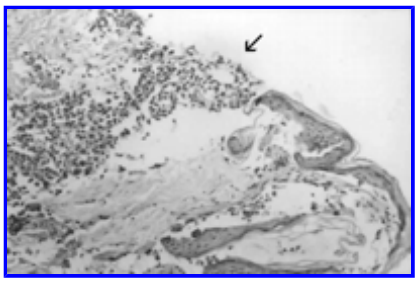

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Figure 2. The histopatologic examination of the corpora cavernosa revealed metastasis of transitional cell carcinoma (H&E x100).

Discussion

Metastatic tumor to the penis is a rare condition. The most frequent primary sites are the genitourinary tract (70%) and the gastrointestinal system (23%) (Dubocq et al, 1998). The bladder and prostate are the 2 most common primary organs (Dubocq et al, 1998; Kotake et al, 2001). Priapism is seen in 40% of cases. Malignant neoplastic lesions spread to the corpora cavernosa by direct extension, retrograde venous or lymphatic transport, and arterial embolism. Priapism develops as a result of obstruction or thrombosis of the corpora cavernosa or irritation of the neural pathways caused by the metastatic tumor. Additionally, arterial rupture due to tumor invasion may result in high-flow priapism.

Penile ultrasonography is a sensitive method to show the metastatic lesions. Duplex ultrasonography

is helpful for differentiating between high- and low-flow priapism. Definitive diagnosis can be confirmed with biopsy (Kvarstein, 1996). In our patient, the hypervascular image of the solid lesion at the base of the penis raised suspicion of metastatic malignancy, and diagnosis was confirmed with biopsy. However, histological confirmation may not be necessary in every case.

Penile metastasis indicates advanced disease with a poor prognosis. Life expectancy is less than 1 year (Dubocq et al, 1998). Metastatic lesions of the penis can be managed by local exicision, partial or total penectomy, radiotherapy, chemotherapy, or conservative therapy. The treatment of penile metastases is decided according to the size and location of the lesion, the presence and kind of priapism, and the prognosis of the primary neoplasm. In cases with isolated metastasis to the penis, local excision could improve survival rates. In patients with priapism who have a short life expectancy or are asymptomatic, conservative treatment can be a reasonable choice. In others, the treatment should be tailored according to the type of priapism. For patients like ours, with high-flow priapism, a good choice of treatment may be embolization of the internal pudental artery. Although we offered chemotherapy and embolization of the internal pudental artery, our patient refused further treatment. In conclusion, this case emphasizes the need for consideration of tumor metastasis that includes genitourinary tumors in the differential diagnosis of priapism, although malignant priapism secondary to bladder cancer metastasis to the corpora cavernosa is uncommon.

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