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Oncology

Urothelial carcinoma of the bladder with cutaneous metastases after robot-assisted radical cystectomy. Case report

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ABSTRACT

Bladder cancer is one of the common urologic malignant diseases.

Cutaneous metastasis of bladder cancer is rare, with only a few case reports. The pattern of metastasis from bladder cancer is not well described.

We report a patient with muscle-invasive bladder cancer who developed skin metastases after neoadjuvant chemotherapy and robot-assisted laparoscopic radical cystoprostatectomy. Skin metastases were confirmed histopathologically by skin biopsy.

This case reminds us of the need to consider the possibility of skin metastasis in the differential diagnosis of skin symptoms in patients with malignant diseases.

Introduction

Bladder cancer is one of the common urologic malignant diseases; however, there are limited data on the metastatic pattern of bladder cancer.

Cutaneous metastasis of bladder cancer is rare, with only a few case reports.[1–3]

The exact frequency of skin metastases in bladder cancer is unknown, and the pattern of metastasis from bladder cancer is not well described.

We report the case of a 70-year-old man with muscle-invasive bladder cancer who underwent neoadjuvant chemotherapy and robot-assisted laparoscopic radical cystoprostatectomy: two months after surgery, he presented with a reddish skin mass on his left chest and skin biopsy confirmed cutaneous metastasis from urothelial carcinoma.

Case presentation

A 70-year-old Japanese male presented to the urology clinic with a primary complaint of gross hematuria. The patient had a history of endoscopic surgery for superficial esophageal cancer.

Computed tomography (CT) and magnetic resonance imaging (MRI) revealed a tumor in the left wall of the bladder. Also, the presence of multiple lymph node metastases was suspected in the pelvis. There was no hydronephrosis. Urine cytology was diagnosed as positive for high-grade urothelial carcinoma (HGUC).

The patient underwent transurethral resection of the bladder tumor and was diagnosed with invasive HGUC which invades muscularis propria.

After four courses of neoadjuvant chemotherapy with cisplatin and gemcitabine, a robot-assisted laparoscopic radical cystoprostatectomy with complete intracorporeal urinary diversion was performed using a Da Vinci Xi surgical system (Intuitive Surgical Inc., Sunnyvale, CA, USA).

An estimated 444 ml of blood was lost during the surgical procedures (operative time: 407 min). The patient experienced a small bowel obstruction (Grade 2: according to the Clavien-Dindo Classification) and a unilateral uretero-ileal anastomosis obstruction with hydronephrosis that required an antegrade ureteral stent placement (Grade 3a: according to the Clavien-Dindo Classification). The patient was released from the hospital 31 days after surgery. Following four courses of neoadjuvant chemotherapy, CT images showed lymph node shrinkage. However, the pathological analysis revealed viable tumor cells in all the resected lymph nodes and bladder, showing prominent lymph vessel permeation and direct invasion into the prostate; ypT4, ypN2 according

Abbreviations: American Joint Committee on Cancer, (AJCC); cytokeratin, (CK); computed tomography, (CT); high-grade urothelial carcinoma, (HGUC); magnetic resonance imaging, (MRI).

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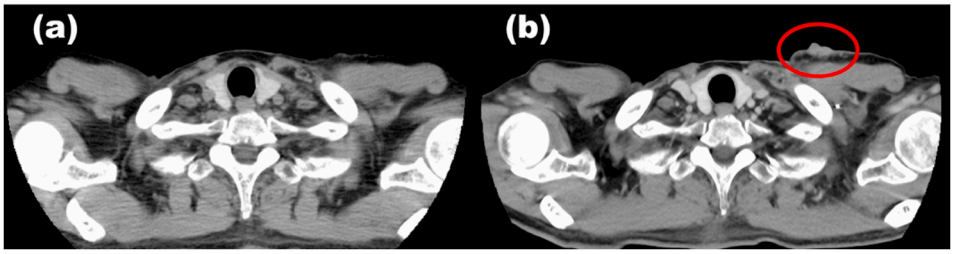

Fig. 1. CT images showing an enhancing mass (red circle) in the skin of the left chest: (a); 1 month after the cystoprostatectomy, (b); 2 months after the cystoprostatectomy. (For interpretation of the references to colour in this figure legend, the reader is referred to the Web version of this article.)

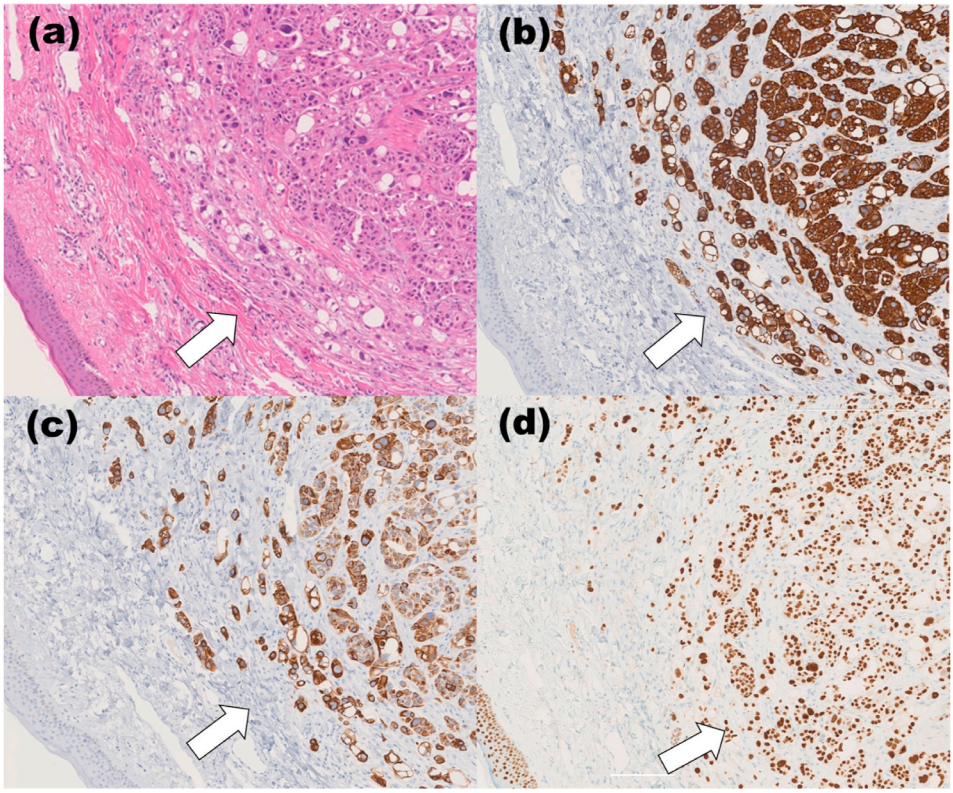

Fig. 2. Histology of biopsy specimens of the cutaneous tumor: (a); hematoxylin and eosin stain (× 100), (b); immunostaining for cytokeratin (CK) 7 (× 100), (c); immunostaining for CK20 (× 100), (d); immunostaining for GATA3 (× 100). In the dermis, marked tumor cell infiltration is found (white arrow). Immunostaining reveals that these tumor cells are positive for CK7, CK20, and GATA3, consistent with cutaneous metastasis of bladder cancer.

to American Joint Committee on Cancer (AJCC) Staging Manual, 8th edition.[4]

Two months after surgery, the patient presented with a reddish mass on the skin of the left chest.

An enhancing mass in the skin of the left chest was confirmed by CT imaging (Fig. 1).

The CT findings at this time showed enlargement of the para-aortic lymph nodes but no distant metastasis to any organs other than the skin.

A biopsy specimen from the cutaneous mass showed tumor cells making small nests in the dermis, which morphology was similar to the cancer cells in the bladder of this patient. Immunohistochemical analysis revealed that they were positive for cytokeratin (CK) 7, CK20, and GATA3 (Fig. 2). Therefore, it was concluded that the skin tumor was a metastasis of the bladder cancer.

Systemic treatment with pembrolizumab has been initiated; however, the tumor is increasing in the size (Fig. 3).

The patient is alive five months after surgery.

Discussion

Bladder cancer commonly metastasizes to regional lymph nodes, the liver, lungs, and bones; however, cutaneous metastasis is rare. In previous studies, skin metastases of bladder cancer were treated with local resection, radiation therapy, chemotherapy, immunological therapy, and combination therapy, but the response rate was poor.[3,5]

Although the detailed cause is unknown, cutaneous involvement from bladder cancer is thought to occur by direct tumor invasion, hematogenous routes, lymphatic spread, and direct seeding due to iatrogenic implantation.[5]

Iatrogenic implantation is one of the most common causes of seeding outside of the urinary tract.[5] However, in this case, the left thoracic region was far from the original surgical site; thus, the skin tumor was unlikely to have been caused by iatrogenic implantation.

In the present case, multiple pelvic lymph node metastases were observed and the skin metastases were conglomerate, suggesting a high probability of lymphatic skin metastasis.

We have presented a rare case of cutaneous metastases from

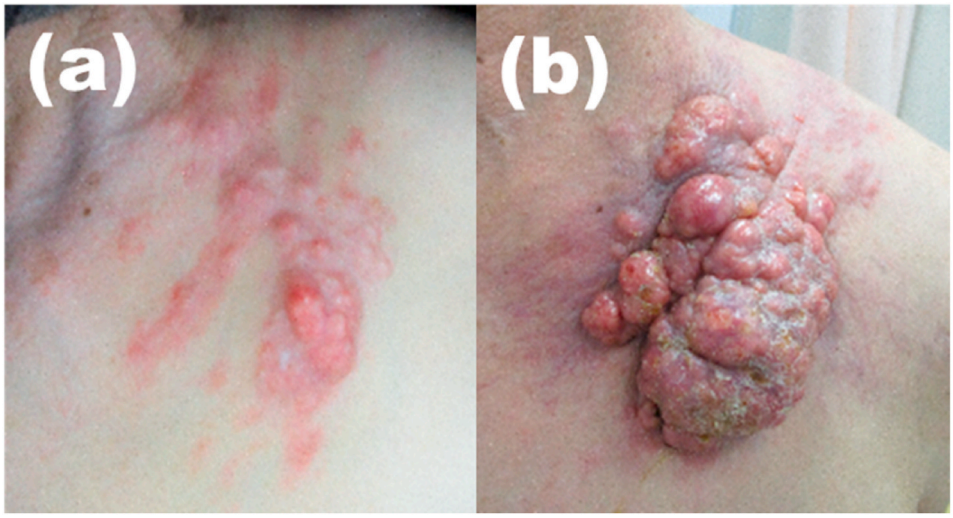

Fig. 3. Multiple tumors were found on the skin of the left anterior chest: (a); 2 months after the cystoprostatectomy, (b); 4 months after the cystoprostatectomy.

urothelial carcinoma of the bladder.

This case reinforces the need to consider the possibility of skin metastasis, although it is rare, in the differential diagnosis of skin symptoms in patients with malignant diseases.

Financial conflict of interest

None.

Declarations of interest

None.

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References

1. Agarwal I, Bruney GF, Sands C, Shirodkar G, Recine M. Cutaneous metastases from urothelial carcinoma of the bladder: a rare presentation and literature review. *W Indian Med J*. 2014;63(5):548–551.
2. Kerkeni W, Ayari Y, Charfi L, et al. Transitional bladder cell carcinoma spreading to the skin. *Urol Case Rep*. 2017;11:17–18.
3. Block CA, Dahmoush L, Konety BR. Cutaneous metastases from transitional cell carcinoma of the bladder. *Urology*. 2006;67(4):e15–e17, 846.
4. Magers MJ, Lopez-Beltran A, Montironi R, Williamson SR, Kaimakliotis HZ, Cheng L. Staging of bladder cancer. *Histopathology*. 2019;74(1):112–134.
5. Salemis NS, Gakis C, Zografidis A, Gourgiotis S. Cutaneous metastasis of transitional cell bladder carcinoma: a rare presentation and literature review. *J Canc Res Therapeut*. 2011;7(2):217–219.