Cutaneous Metastases from Urothelial Carcinoma of the Bladder
A Rare Presentation and Literature Review
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\textbf{ABSTRACT}

With the advances in imaging, earlier detection of recurrence and metastatic disease is possible. However, there are limited data on the metastatic pattern of bladder cancer. In addition, cutaneous metastases from primary genitourinary malignancies are rare and, in spite of advances in imaging which detect smaller lesions, the patterns of metastases from bladder cancer have not been well described. Very few cases of skin metastasis from urothelial carcinoma have been reported in the past. We present a case of primary bladder transitional cell carcinoma in which a cutaneous metastasis was the initial presentation.

Keywords: Bladder, cutaneous, metastases, transitional cell carcinoma

INTRODUCTION
Bladder carcinoma is one of the common malignant diseases but data on its metastatic pattern are limited. One should be familiar with the common and uncommon sites of metastases as their detection is important to guide appropriate treatment selection and has a marked influence on prognosis. The incidence of cutaneous metastases from all urologic malignancies is 1.1\% to 2.5\% (1). Metastases to the skin from renal cell carcinoma are the most common (3.4\% to 4.0\%), followed by bladder (0.84 to 3.6\%), prostate (0.36 to 0.7\%) and germ cell tumours [0.4\%] (2). The index patient had transitional cell carcinoma of the bladder and presented with a large subcutaneous flank mass which led to the diagnosis of the primary tumour.

CASE REPORT
The patient was a 49-year old male who presented with a 12 x 8 cm flank mass of two months (Fig. 1). Initial history revealed haematuria and non-specific symptoms of fatigue. The flank mass was biopsied. Initial morphologic features revealed an undifferentiated carcinoma with clear cell features (Figs. 2 and 3); immunohistochemistry showed strong positivity for cytokeratin (CK) 7, CK20 (Fig. 4), keratin cocktail (AE1/AE3) and tumour protein p63 (Fig. 5),
and negativity for CK5/6, placental alkaline phosphatase (PLAP), napsin, thyroid transcription factor-1 (TTF-1), cluster of differentiation (CD) 117 and homeobox protein CDX-2. A diagnosis of undifferentiated carcinoma favouring metastatic urothelial carcinoma was made. Work-up for haematuria showed a large bladder mass with bilateral hydroureteronephrosis (Fig. 6). There was a large liver mass suspicious for a metastatic lesion. In addition, there were multiple right adrenal masses, peritoneal nodules, largest in the left subphrenic region, several other smaller soft tissue nodules in the posterior abdominal wall and gluteal region, and bilateral axillary, pelvic and inguinal lymphadenopathy.

Serum creatinine and blood urea nitrogen (BUN) levels were elevated (2.2 mg/dL and 23 mg/dL, respectively). Hyperkalaemia (serum potassium 5.9 mg/dL) and deranged serum protein profile were noted. Serum alpha fetoprotein (AFP) levels were normal and mild elevation of gamma-glutamyl transpeptidase (GGT) was noted (113 U/L). Serum
lactate dehydrogenase (LDH) level was 429 U/L. Urinalysis showed a large amount of blood.

Bilateral ureteric stents were inserted. Later, trans-urethral resection of bladder tumour (TURBT) for the bladder mass and the flank mass resection were done (Fig. 7).

were transfused and there was some improvement in the patient’s haemoglobin levels. The patient received one cycle of chemotherapy including gemcitabine, cisplatin and carboplatin; however, he died seven weeks after receiving the chemotherapy and 17 weeks after the initial presentation.

DISCUSSION
Chung et al described a case of urothelial carcinoma of the bladder that metastasized to the brain and abdominal skin (3). Akman et al have described a rare case of extensive skin metastases of transitional cell carcinoma as the initial presenting feature (4). Chang et al reported a patient with bladder urothelial carcinoma presenting with cutaneous metastases initially and bladder tumour was the incidental finding (5). Shinagare et al have published a study that evaluated the metastatic pattern of muscle invasive bladder cancer from a clinic population of 392 patients. The most common sites were lymph nodes (69%), bone (47%), lung (37%), liver (26%), peritoneum (16%), pleura (11%), soft tissue including subcutaneous tissue (9%), adrenal (7%), brain (5%), urethra (3%), intestine (3%) and spleen [1%] (6).

Cutaneous metastasis from internal malignancies is a rare clinical entity and may be the first sign of an advanced disease. In a meta-analysis performed by Krathen et al, it was found that the overall incidence of cutaneous metastases was 5.3% among 20 380 cancer patients (7). Breast cancer was the most common origin of cutaneous metastases and the most common affected sites were the chest and the abdomen. Due to the limited number of patients with cutaneous metastases of bladder cancer and their subsequent poor survival, management strategies have not been clearly defined. Treatment options are often limited and palliative due to the patient’s advanced age and the disease stage, resulting in poor prognosis. The treatment of choice for metastatic bladder cancer is chemotherapy, which is rarely curative. Currently, the combination of gemcitabine and cisplatin and the MVAC scheme (methotrexate, vinblastine, doxorubicin and cisplatin) are established treatments with reported tumour remission rates up to 70% (8, 9). Prognosis, however, is poor.

In conclusion, we presented a rare case of cutaneous metastases from urothelial carcinoma of the bladder. Metastatic disease should always be considered in the differential diagnosis in patients who present with malignant appearing skin nodules and a search should be done to identify the primary tumour, if not diagnosed previously. Urothelial carcinoma, although rare, can be a source of metastasis to the subcutaneous tissues. Due to advanced stage of the disease in most cases, treatment is mainly supportive and the prognosis is poor.

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REFERENCES


