Metastatic transitional cell carcinoma presenting with skin metastasis

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ABSTRACT
Transitional cell carcinomas (TCC) of upper urinary system account for 5% of all TCCs. The incidence of such metastases ranges from 0.18% to 2%. Experimental studies reported a general unsatisfactory survival time following skin metastasis. We report in this paper a case of metastatic urinary system TCC, which had become evident with a skin lesion in the right hypogastric region. A 60-year-old female patient with a history of being operated upon due to renal pelvic TCC was admitted to our outpatient clinic with complaints of red skin lesion in the near vicinity of the operational incision scar for 3 months. Her medical history revealed nothing but nephroureterectomy operation on the upper urinary system; moreover, it was learned that she had been ignoring what was recommended to her for routine controls. Thoraco-abdominal computed tomographic (CT) examination performed on the basis of aforementioned findings depicted a mass lesion of 24*20 mm dimension with high contrast uptake detected within the subcutaneous fat tissue in the right abdominal wall. The skin lesion depicted in CT was surgically excised. The pathological examination of the excised material was reported to be compatible with TCC. The patient was referred due to abdominal lesion to medical oncology after the operation. Followed up under chemotherapy protocol, the patient died 3 months after the metastasectomy operation. Skin metastasis of upper urinary system TCCs, especially renal pelvic TCCs, are quite rare conditions. Among the likely skin sites of metastasis for genitourinary system TCCs are head, face, extremities, suprapubic region and abdomen. Taking into consideration the low survival rates, the importance of early diagnosis of recurrences and/or distant metastases should be better appreciated. These patients die soon after the skin metastasis even with the administration of aggressive therapy. Similarly, our patient died 90 days after the diagnosis of skin metastasis despite the oncologic therapy.

Key Words: Kidney cancer, metastasis, transitional cell carcinoma, skin

INTRODUCTION
Transitional cell carcinomas (TCC) of upper urinary system account for 5% of all TCCs. Treatment commonly encompasses nephroureterectomy and cuff excision, and the disease may rarely metastasize to the skin after surgery. Most of the skin metastasis due to TCC occurs due to malignancies originating from the gallbladder. The incidence of such metastases ranges from 0.18% to 2%, with a mean below 1%. The rate of skin metastasis originating from upper urinary system TCCs is inexplicit; however, such metastasis has been known to be observed more commonly in middle-aged and older men compared to women.

Diagnosis of skin metastasis of TCC can be time-consuming due to the rarity of such metastasis. Experimental studies reported a general unsatisfactory survival time following skin metastasis.

We report in this paper a case of metastatic urinary system TCC, which had become evident with a skin lesion in the right hypogastric region 1 year after curative therapy.

CASE REPORT
A 60-year-old female patient with a history of nephroureterectomy and cuff excision due to renal pelvic
TCC was admitted to our outpatient clinic with complaints of red skin lesion in the near vicinity of the operational incision scar for 3 months. Her medical history revealed nothing but nephroureterectomy operation on her upper urinary system; moreover, it was learned that she had been ignoring what was recommended to her for routine controls. A thorough search through the database regarding patient’s past medical reports revealed that the pathology report about the past operation had been compatible with high-grade TCC and that the tumor had been multifocally located in the renal pelvis with the largest one to be 2.5 cm in diameter. The past pathology report had further indicated presence of lymphovascular invasion, compatible with pT2 stage (Muscle invasion is present in the absence of parenchymal and peripelvic fat tissue invasion) and absence of tumoral tissue within the surgical border. In the physical examination, a hard, painless and immobile mass of 2*2 cm dimension was palpated 3 cm below the incision line. Thoraco-abdominal computed tomographic (CT) examination performed on the basis of the aforementioned findings depicted a mass lesion of 78*65*50 mm dimension with heterogeneous contrast uptake, which originated in the abdomen at the level of left renal vein drainage into the inferior vena cava, completely surrounding the inferior vena cava and extending inferiorly to the level of aortic bifurcation. In addition, a mass lesion of 24*20 mm dimension with high-contrast uptake was detected within the subcutaneous fat tissue in the right abdominal wall. The other abdominal and thoracic structures were evaluated to be normal [Figure 1].

The skin lesion depicted in CT was surgically excised. The pathological examination of the excised material was reported to be compatible with TCC metastasis localized within the reticular dermis and hypodermis without any invasion into the epidermis and papillary dermis, and with surgical border negativity.

The patient was referred due to abdominal lesion to medical oncology after the operation. Followed up under chemotherapy protocol, the patient died 3 months after the metastasectomy operation.

**DISCUSSION**

The common sites of metastasis of urinary system TCC disease are known to be the lungs, bones and the liver. Renal pelvis TCCs show resemblance in terms of epidemiological, clinical and pathological parameters to gallbladder TCCs. Histological grade, stage and multifocality of tumor play a role in the prognosis of these tumors. From this standpoint, our patient was regarded as suffering from high-grade multifocal tumor with T2 pathological stage.

Skin metastases of upper urinary system TCCs, especially renal pelvic TCCs, are quite rare conditions. The route of metastasis can be directly through lymphatic channels or hematogenous. Among the likely skin sites of metastasis for genitourinary system TCCs are head, face, extremities, suprapubic region and abdomen. Moreover, there are case reports indicating TCC metastases to the skin of scrotum and ocular region. The skin metastasis in our patient manifested as a hyperemic mass lesion of around 2 cm in diameter, which was localized in the right hypogastric region.

Skin metastasis of TCC is rare and seen in later periods compared to the other likely sites of metastasis. It is for this reason that patients with definitive skin metastasis should be investigated in terms of probable metastases to the other organ systems. To give an example, in a case report by Lin et al., a strict scrutiny of a patient presenting with skin metastasis revealed tumor in duodenum, right psoas muscle and pancreas. Similarly, abdominal local tumoral recurrence could not be suspected due to the patient’s ignorant behavior for her routine medical follow-ups, and hence was able to be detected only during the scrutiny on the basis of skin metastasis.

General 1-year survival rate in metastatic urinary system TCCs are calculated to be around 35%, even with modern chemotherapeutic agents. Taking into consideration such low survival rates, the importance of early diagnosis of recurrences and/or distant metastases can be better appreciated. While there is no sufficient data in the literature as regards treatment approaches following
the diagnosis of skin metastasis, one can propose in the light of case reports that no effective therapeutic method be present. These patients die soon after the skin metastasis even with administration of aggressive therapy. Similarly, our case died 90 days after the diagnosis of skin metastasis despite oncologic therapy.

In conclusion, skin metastasis originating from urinary system TCCs is a rare disease condition where diagnostic difficulties can be experienced and no certain treatment protocol achieving consensus is present. Patients undergoing surgical operation because of TCC should be thoroughly informed of the clinical course of this disease and be followed up closely no matter what the pathologic result of the operation is. Moreover, care should be exercised in terms of metastasis in patients who don’t comply with the follow-ups and those with skin lesions no matter if it is especially non-specific or not.

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