

RARE PRESENTATION OF CUTANEOUS METASTASIS IN URINARY BLADDER CANCER: A CASE REPORT

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PJR January - March 2023; 33(1): 51-55

ABSTRACT

Cutaneous metastasis is an uncommon presentation for internal malignancies. Overall incidence of documented skin metastasis ranges between 2-5% in all malignancies. Cutaneous metastasis from urological malignancies though not common for renal tumors but remains highly unusual for bladder cancers with a handful of cases mentioned in literature. We report a case of 70 years old male patient diagnosed with metastatic urinary bladder cancer. Incidentally, the patient had multiple cutaneous lesions which on clinical grounds had been assumed as multiple neurofibromas. The patient was percutaneously approached by ultrasound guided biopsy of a left hepatic lobe metastatic lesion. In addition, a subcutaneous nodule in the left lumbar region was also approached via FNAC. The histopathology and cytological examinations confirmed not only the extensive metastatic disease from urinary bladder primary but also verified the malignant nature of the cutaneous lesions. Not only do these cutaneous lesions present with extreme variation in appearances, rather they are notorious for mimicking many sorts of dermatological disorders which can lead to an easy miss. Awareness of this rare clinical entity and high index of suspicion remains essential whilst dealing with cases in settings of known urinary bladder primary.

Key words: Cutaneous metastasis, urinary bladder cancer, percutaneous ultrasound guided biopsy.

Case Report

We present a case of 70 years old male patient presenting with complaint of weight loss, generalized body weakness and gradually increasing abdominal pain. The patient underwent an initial ultrasound evaluation elsewhere which identified a tumor in the left lateral wall of the urinary bladder, following which a contrast enhanced MRI examination of the abdomen and pelvis was performed. The examination confirmed the left urinary bladder wall tumor with invasion into the peri vesical fat planes. Multiple enlarged regional nodes were also detected, with the largest pelvic side wall node on the left side measuring upto 12 mm in short axis. Other enlarged nodes were also noted in

the nearby sigmoid mesocolon, also measuring upto 12 mm in short axis. In addition, there was extensive metastatic disease involving the liver, muscles and skeleton. Multiple cutaneous lesions were somewhat confusing due to the rare presentation of skin metastasis in cases of bladder cancers. Furthermore, the patient had previously consulted physicians with regards to this dermatological issue and a non histological, purely clinical opinion of multiple neurofibromas in keeping with Neurofibromatosis had already been proposed. The decision to declare these skin lesions either as a dermatological entity or else a wider spectrum metastatic disease in this

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Submitted 8 February 2023, Accepted 3 March 2023

known cancer patient became more ambiguous. This patient was ultimately discussed in the multidisciplinary meeting. Since the patient had no histological evaluation of the primary or any metastatic lesion, it was mutually resolved by all to acquire a histological diagnosis of the bladder tumor. However, the approach to biopsy the primary bladder lesion via cystoscopy would prove to be undoubtedly invasive and even less permissible by this old age patient. So, a decision was made not to biopsy the primary lesion, rather the metastatic deposit in left hepatic lobe should be sampled which could be easily accessed by a transabdominal ultrasound approach. The patient was thus referred to us with such a request.

Previously performed MRI examination of the patient was reviewed followed by on-site ultrasound evaluation prior to the biopsy. The reviewed MRI did highlight the multiple cutaneous lesions which were predominantly of cystic consistency but otherwise appeared indeterminate in origin. It was therefore decided to sample one of these lesions also via FNAC. Informed written consent was obtained for ultrasound guided biopsy of the large metastatic deposit in left lobe of liver. FNA of one of the larger and more superficial subcutaneous nodule in the left lumbar region was also done. All necessary precautions were taken, site marked, local anesthesia instilled and sterile technique used. Ultrasound guided coaxial technique was applied for left hepatic lobe lesion with immediate on-site evaluation by the pathologist sitting in the adjacent room to define the appropriateness of the lesion and site within this lesion for final sampling. Thereafter, multiple Tru-Cut biopsy samples obtained from different locations within this mass. The patient underwent the procedure well with no immediate complications, kept in observation for few hours and discharged in a stable condition. Cytology and histopathologic features along with immunohistochemical profile confirmed metastatic adenocarcinoma from a urinary bladder primary. Regrettably, before any definite treatment regime could be decided upon, the clinical condition deteriorated rapidly and the patient expired in less than a month's interval.





Figure 1: MRI axial T2-weighted (1a) sequence demonstrate left lateral urinary bladder wall tumor which is infiltrating into the perivesical fat with associated regional lymphadenopathy. Axial T2 fat suppressed (1b) sequence show extensive intramuscular and osseous metastatic disease. Axial T1 contrast enhanced fat suppressed (1c) sequence shows multiple hepatic metastatic lesions. In addition, multiple cutaneous lesions which appear indeterminate in origin, are also appreciable.



Figure 2: Image of the patient's left antero-lateral abdomen reveals multiple cutaneous nodules, and the larger lesion (black circle) was sampled via ultrasound guided FNAC.

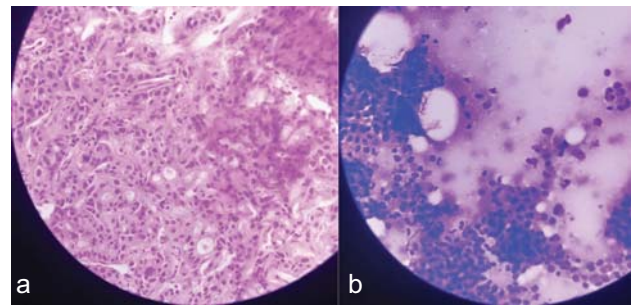


Figure 3: Biopsy specimen from left hepatic lobe lesion (3a) showed liver tissue cores infiltrated by neoplasm composed of tumor cells arranged in tubules and glandular structures. Panel of immunohistochemical profile also performed (Beta-catenin membranous staining and CDX-2 negativity) which was consistent with metastatic adenocarcinoma from urinary bladder primary. Cellular smears prepared from cutaneous nodule aspirate (3b) showed clusters of tumor cells displaying moderate amount of vacuolated cytoplasm, marked nuclear pleomorphism, high nuclear to cytoplasmic ratio and conspicuous nucleoli, all feature positive for malignant cells.

Discussion

Cutaneous metastasis from internal malignancies is a rare clinical entity.¹ Most common primary tumors that metastasize to the skin in women are breast, followed by colon, lungs and ovary whereas in men lung cancer is the most common cause followed by colonic and head neck tumors.^{6,10} A total of only 5.3% of all malignancies lead to cutaneous metastasis, of these approximately 1.34% are due to an underlying genitourinary malignancy; bladder cancer accounts for 0.84% of these with a limited number of cases reported in literature.^{1,6,7,9} Bladder cancer commonly metastasizes to regional lymph nodes, liver, lungs, and bones.^{1,2,3,8} The first case of cutaneous metastasis in urinary bladder carcinoma was reported in 1909.^{5,8,9} The most common urinary bladder histological variant is transitional cell carcinoma which accounts for about 90% of the cases, followed by squamous cell carcinoma (5%), adenocarcinoma (1-2%) and other rare subtypes.⁷ The major incidence of cutaneous metastasis occurring in cases of primary bladder tumors have been reported for the transitional cell carcinoma subtype with only a hand full of cases reported for squamous cell carcinoma of the bladder.² To the best of our knowledge, this is the first case in the literature reporting skin metastasis for adenocarcinoma of the urinary bladder.

Urinary bladder cancer usually spreads to the skin by direct tumor invasion, hematogenous or lymphatic spread or direct seeding due to iatrogenic implantation.^{1,2,5,8} Most common sites for development of cutaneous metastases are at the coregional skin, usually abdomen, thighs and genitalia, however they can be located at any part of the cutaneous region.^{2,8,9} Cutaneous metastases are generally encountered in locally advanced neoplasms, nevertheless few literature reports do mention the presence of cutaneous metastasis in the absence of a diffuse metastatic disease.² Also, while skin metastases may occur at any time after the initial diagnosis of primary tumor however, most occurrences have been reported within an average period of 18 months after primary diagnosis.^{5,8} The gross appearance of these cutaneous metastatic lesions is highly variable and can mimic other dermatologic disorders.^{1,3,6,7} In our report, the patient had developed cutaneous metastasis in almost the same expected time span as the associated widespread musculoskeletal and visceral metastatic disease. Lesions were localized mainly to the anterior and posterior body walls with relatively spared peripheries.

Prognosis of metastatic bladder cancer is poor. Among patients with bladder cancer with cutaneous metastasis, the median survival is less than 12 months.^{1,3,5,8} Poor outcomes can be attributed to the aggressive nature of the disease, limited treatment options and the rarity of the disease itself. Treatment options are often limited and primarily supportive in nature due to the patient's advanced age and an overall poor outcome. Local excision, radiotherapy, chemotherapy, immunological and combination therapy are the various options currently in use but without any documented response.^{2,6,7,10} In our case, the clinical condition deteriorated rapidly, and the patient expired in less than a month's interval following the histopathological diagnosis before any definite treatment regime could be initiated.

Clinical diversity of cutaneous urothelial carcinoma metastases makes it difficult to make a correct diagnosis. Firstly, the clinician should suspect the possibility of cutaneous metastasis in patients with known history of bladder cancer and must then carry out histopathologic evaluation for confirmation.⁴ The use of immunohistochemical staining is also essential in determination of the primary origin of the tumor.⁴

Conclusion

We present a unique case of cutaneous metastasis in urinary bladder cancer. Although cutaneous metastatic disease is a rare dermatological condition but should always be a differential possibility in patients with history of bladder cancer. Clinicians should be aware of this entity and should consider performing skin biopsy for histopathologic and immunohistochemical analysis. It also remains essential that the medical community has access to such reported cases so as to advance our knowledge of this particular disease.

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