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Bladder Cancer Presenting with Cutaneous Metastasis: Case Report

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Abstract **Case Report**

Advanced bladder tumor rarely metastasize to the skin. This is a result of intraperitoneal spread at least microscopically, determining a poor prognosis. We report 73 year old man who presented with skin lesion from pT2 urothelial carcinoma of the bladder. Skin biopsy revealed features of infiltrating urothelial carcinoma. In immunohistochemistry, proliferation expresses CK7 diffusely and CK20 more heterogeneously. It also expresses GATA3 expression of P63. Abdominal-pelvic CT reveled a focal thickening of the bladder dome on the right side of the body, extending over 6 cm and with a maximum thickness of 18 mm, with bilateral pyelocalic dilatation. Patient was referred to oncology for platinum-based chemotherapy. He had responded well to chemotherapy with stable lesions. In any patient followed for a bladder cancer, an atypical skin lesion should raise the alarm and make the patient seek a dermatological opinion for suspicion of a skin metastasis despite its rarity.

Keywords: Bladder tumor, skin lesion, poor prognosis.

BACKGROUND

Solid tumors metastasize very rarely to the skin, their incidence varying from 0.2 to 10.4% [1]. Skin metastases due to cancers of genitourinary origin are even rarer, and can be observed in 1.1% to 2.5% of cases [2]. Renal tumors are the most frequently implicated by urogenital tumors [3]. On the other hand, skin metastases of bladder origin are extremely rare and above all have a poor prognosis. Their incidence is about 0.22% [4]. These cutaneous metastases of genitourinary origin often present as infiltrating plaques or nodules [5]. They may occur a few months or less, or even years after the diagnosis of the primary tumor. We report case of muscle invasive urothelial carcinoma presenting with cutaneous metastasis.

CASE REPORT

This is a 73-year-old patient, chronic smoker with 45 pack-years. He presented a bilateral renal colic, more marked on the right with vomiting ; the whole evolving in a febrile context. The physical examination did not find anything particular except an exquisite pain of the lumbar fossa. He was initially admitted to the emergency room for the management of a sepsis with a urinary origin and acute obstructive renal failure. An abdominal-pelvic CT scan showed a focal thickening of the bladder dome on the right side of the body, extending over 6 cm and with a maximum thickness of 18 mm, with bilateral pyelocalic dilatation. The patient underwent emergency trans-urethral bladder resection with bilateral double-j catheterization.

Anatomopathological analysis came back in favor of a urothelial carcinoma classified pT1 high grade (G3), muscle seen and not infiltrated. During his hospitalization, the general examination revealed skin lesions in the form of inflammed nodules (which had appeared, according to the patient, several months earlier) (Figure 1). A dermatological opinion was requested and was in favor of a skin biopsy indication.

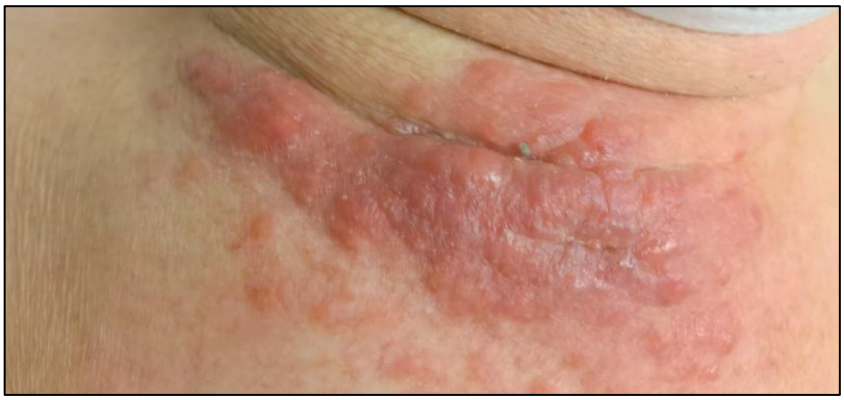

Figure 1 : Skin patches on the lower part of the neck, lateralized to the right

The patient was rehospitalized 3 weeks later for further resection, and the pathological analysis came back in favor of an infiltrating urothelial carcinoma classified as high grade pT2. The patient underwent a skin biopsy of the above-mentioned lesion. Microscopic examination showed skin tissue with extensive invasion of the dermis and hypodermis by a moderately differentiated carcinomatous process. (Figure 2A). The immunohistochemical profile (positivity of tumor cells to anti-CK7, CK20, and GATA3 antibodies) was compatible with the known bladder origin of the patient (Figure 2B, 2C, 2D).

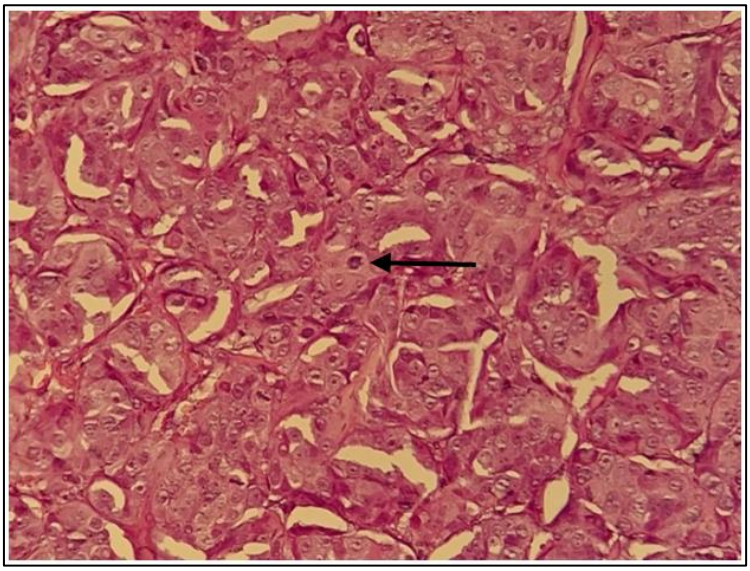

Figure 2A: Carcinomatous tumor process made of moderately atypical cells with eosinophilic cytoplasm and strongly nucleated and mitotic nuclei (←) (Hematoxylin-Eosin, magnification x100)

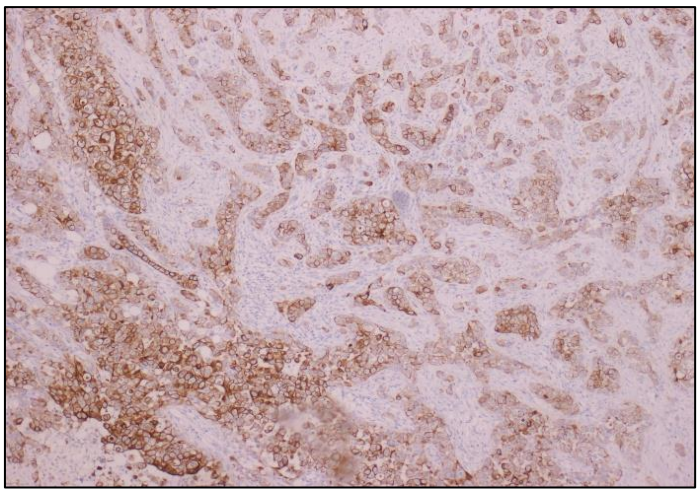

Figure 2B: Tumor cell positivity to anti-CK7 (Immunohistochemistry, magnificationx100)

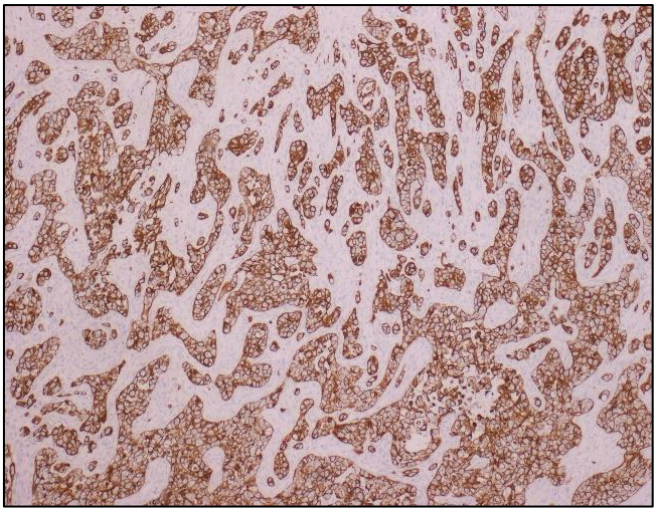

Figure 2C: Tumor cell positivity to anti-CK20 (Immunohistochemistry, magnificationx100)

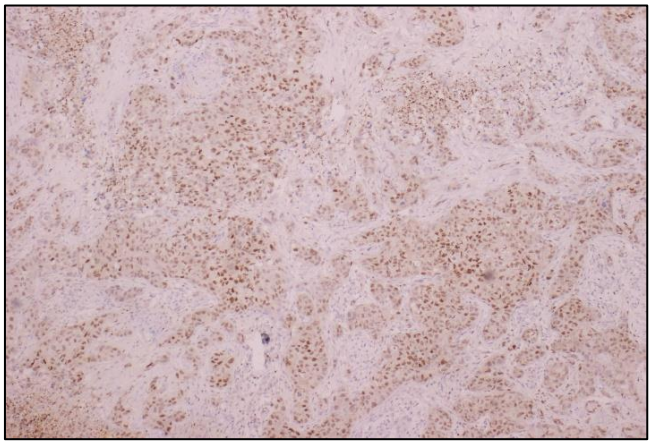

Figure 2D: Tumor cell positivity to anti-GATA3 (Immunohistochemistry, magnificationx100)

The 18-Fluoro deoxy-Glucose positron emission tomography (18FDG pet-Scan) performed as part of the extension work-up showed secondary adenopathies above and below the diaphragm with a secondary cutaneous location (lower cervical laterally on the right), as well as suspicious condensing osteo-medullary locations and thickening of the recto-sigmoid hinge. The patient was referred to oncology for further management of a metastatic bladder tumor (Figure 3).

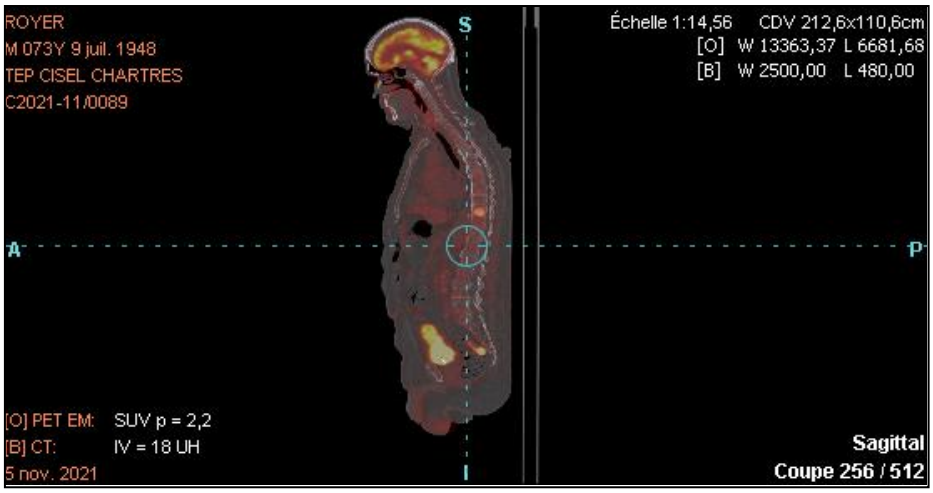

Figure 3: 18FDG pet-Scan, showing secondary adenopathies above and below the diaphragm with a secondary cutaneous location (lower cervical laterally on the right), as well as suspicious condensing osteo-medullary locations and thickening of the recto-sigmoid hinge

DISCUSSION

The skin is a relatively uncommon site of metastatic dissemination of deep cancers [6]. Indeed, the skin ranks only 12th among metastatic sites (excluding lymph nodes) during known neoplasias [7]. The frequency of cutaneous metastases (CM) in malignant tumors is low and ranges from 0.3 to 9% according to the literature [8]. The cancers that most often cause CM are different according to gender. In women, breast cancer is the most common cause of CM (69%), followed by colon cancer (9%), then lung cancer (4%) and ovarian cancer (4%). In men, however, colon cancer is the most common (19%), followed by head and neck neoplasia (12%).

Usually, bladder tumors, at an advanced stage have metastatic dissemination mainly lymph node, bone, liver or lung [9]. The incidence of CM of transitional cell carcinoma of the bladder is 0.84%. This rate is 3.4% for kidney cancer and 0.4% for prostate cancer [10].

The tumor cells reach the skin by different routes: invasion from close by, by direct extension of an underlying tumor; embolization of cutaneous blood or lymphatic vessels by tumor cells that have spread to the circulatory system; more rarely, iatrogenic implantation following instrumental exploration (biopsy) or surgery (CM at the level of surgical scars) [11]. In cases of primary lesions at a distance, CMs are blood-borne and are most often associated with at least microscopic hepatic or pulmonary localizations, which is the reason for the very poor prognosis [12], which was not the case for our patient. CMs can occur in all skin areas, but they develop preferentially in certain areas: the cephalic extremity, the neck, which was involved in our patient, the anterior aspect of the thorax and the abdominal wall [6].

Clinically, CMs are nonspecific, and can simulate primary skin tumors or inflammatory lesions; the most frequent clinical aspects can be single or multiple metastatic nodules; sclerotic metastases in the form of infiltrated, cardboard-like, slightly inflammatory plaques simulating morphea lesions; inflammatory metastases that give the lesion an "eresipelatoid" appearance [13, 6]. Therefore, biopsy of any skin lesion in a cancerous subject is imperative [14]. In our patient, the lesion had a more or less indurated erythematous appearance.

On microscopic examination, CMs have a variable morphological differentiation: if in some cases they preserve the recognizable histological features of the original tumor, more frequently epithelial (carcinoma), most often they are undifferentiated and do not allow the recognition of the primary tumor [6].

CMs have an initial phase of rapid growth, within a few weeks or months. Thereafter, they tend to stabilize. The appearance of a CM, testifies to the dissemination of the tumor and is therefore, an index of poor prognosis with a mean survival of 3 months [13, 6, 8].

As for the treatment of the CM itself, it can be considered in the case of a single lesion or causing functional discomfort (pain), taking into account the general condition and age of the patient. Single small CM can be excised surgically, while multiple lesions grouped in a territory can benefit from radiotherapy [6]. In our patient, the lesion was large and extensive and located in the lower part of the neck, which did not allow for carcinological surgical excision.

CONCLUSION

Bladder tumour can rarely present with skin metastasis. Clinical and histopathological diagnosis are necessary. In the majority of cases, palliative chemotherapy based on platinum salts is associated with good outcome. Therefore, any practitioner, oncologist or urologist must remain vigilant about this rare clinical presentation and even inform patients about it in order to allow an early diagnosis and to offer the best chances of treatment.

Abreviations

CM: Cutaneous metastasis.

DECLARATIONS

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Consent for Publication: The patient gave his informed and written consent for the publication of this work.

Competing Interests: The authors declare that they have no conflicts of interest in connection with this article.

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Authors' Contributions: AL, JL and HE analyzed and interpreted the patient data regarding the subject. HB, MH, and GS were a major contributor in writing the manuscript. All authors read and approved the final manuscript.

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