Journal of the Egyptian National Cancer Institute xxx (2017) xxx–xxx

Contents lists available at ScienceDirect

Journal of the Egyptian National Cancer Institute

journal homepage: www.sciencedirect.com

Case report

# Cytological diagnosis of a rare case of cutaneous metastasis from transitional cell carcinoma, renal pelvis

Pragya Singh [a,*], Sachin Kolte [a], Gunjesh Kumar Singh [b]

[a] Department of Pathology, VMMC & Safdarjung Hospital, New Delhi 110029, India
[b] Department of Radiotherapy, VMMC & Safdarjung Hospital, New Delhi 110029, India

ARTICLE INFO

*Article history:*
Received 17 October 2017
Accepted 17 November 2017
Available online xxxx

*Keywords:*
Transitional cell carcinoma
Renal pelvis
Skin metastasis
Cytology

ABSTRACT

Transitional cell carcinoma (TCC) arising from renal pelvis rarely gives rise to cutaneous metastasis. Due to the insufficient literature, the exact incidence is not known till date. Moreover, the diagnosis is confirmed on histopathological examination with the aid of immunohistochemistry wherever needed. We are presenting a case of a 70-year-old female with metastatic TCC from the renal pelvis to the abdominal skin, which was diagnosed on cytology alone along with the cell block preparation. We also highlight the important cytomorphological and immunohistochemical features noted, which need to be known to avoid any diagnostic delay.



## Introduction

Cutaneous metastasis from transitional cell carcinoma of genitourinary system is a rare entity with most of the reported cases being from the urinary bladder. TCC renal pelvis, showing skin metastasis is an extremely rare event with an unknown incidence till date. Middle aged or elderly males are predominantly affected [1]. Cutaneous metastasis may be the presenting symptom of the disease or may occur after months or even years of the primary diagnosis and carries poor prognosis like any urologic malignancy. The accurate diagnosis requires awareness and a high index of suspicion. We present a rare case of cutaneous metastasis from TCC renal pelvis developing after 4 years of initial treatment, showing unusual cytomorphological features, thereby highlighting the importance of FNAC as a valuable diagnostic tool.

## Case report

A 70 year old female presented to the outpatient department of urology with left sided abdominal wall swelling since 1 month. On local examination, the lesion measured 10 cm × 8 cm, was hard, fixed and slightly tender, with presence of ulceration over the overlying skin. An old scar mark was also present near the swelling [Fig. 1a]. Patient had a history of left radical nephrectomy done at another centre four years back, for renal tumour with the histopathology revealing low grade papillary urothelial carcinoma arising in the renal pelvis. The tumour was infiltrating the renal parenchyma with presence of vascular invasion however, the ureteric margin and renal vessels were free of tumour. Patient did not turn up for follow up after surgery and didn't receive any adjuvant treatment.

Contrast enhanced tomography (CECT) whole abdomen was done at our centre which showed absent left kidney and two enhancing nodules, one as fusiform shaped heterogeneously enhancing nodular lesion in the left anterior abdominal wall measuring 32 mm × 39 mm × 27 mm. The overlying skin showed focal depression and thickening with increased vascularity in and around the lesion, suggestive of metastatic lesion. Another nodule measuring 15.7 mm × 12.5 mm × 10.4 mm was noted posterior to the previous one, based on the transverses abdominis muscle [Fig. 1b]. FNAC was performed from the left abdominal wall swelling. The smears were cellular and showed presence of highly pleomorphic tumour cells scattered singly against a dirty and necrotic background. The cells were large, round to polygonal with abundant cytoplasm and hyperchromatic nuclei. Occasional cercariform cells could be identified [Fig. 2a, b]. Features were suggestive of metastatic high grade transitional cell carcinoma however, keeping in mind the association of prominent squamous differentiation with this malignant neoplasm, further evaluation was done to differentiate the same from metastatic squamous cell carcinoma from an unknown primary. For this, cell block was prepared from the swelling. On immunohistochemistry, the tumour cells were positive for CK7, CD10 and were negative for p63, CK20, vimentin

Peer review under responsibility of The National Cancer Institute, Cairo University.
* Corresponding author.
*E-mail address:* pragya986800@gmail.com (P. Singh).

https://doi.org/10.1016/j.jnci.2017.11.001
1110-0362/

Please cite this article in press as: Singh P et al. Cytological diagnosis of a rare case of cutaneous metastasis from transitional cell carcinoma, renal pelvis. J Egyptian Nat Cancer Inst (2017), https://doi.org/10.1016/j.jnci.2017.11.001

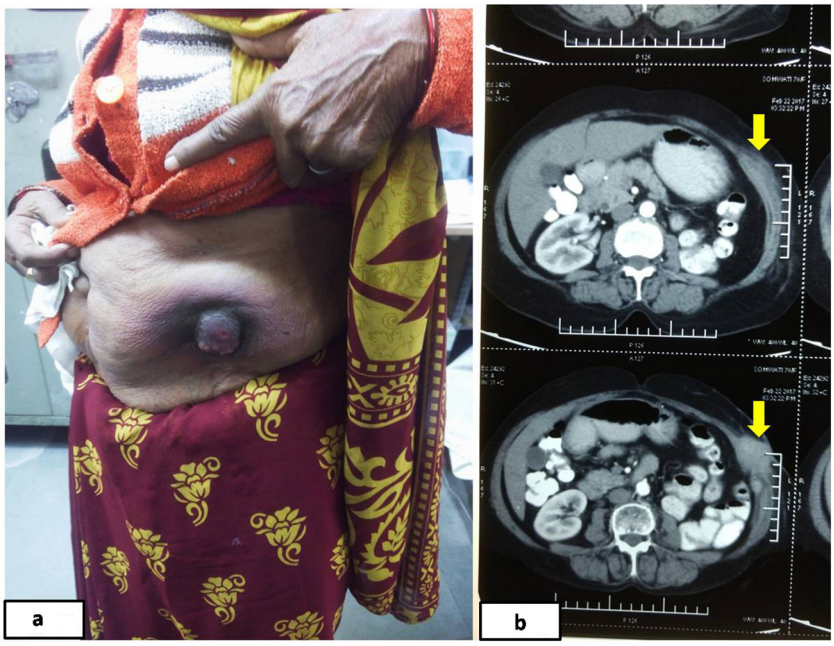


**Fig. 1.** (a) left lower abdominal wall lump, (b) CECT abdomen showing absent left side kidney and two heterogeneously enhancing lesions in the left abdominal wall (arrow).

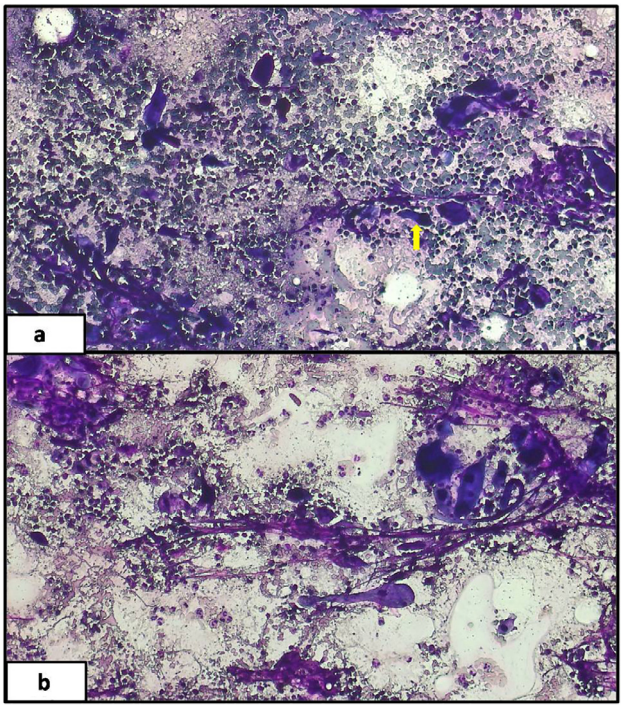


**Fig. 2.** (a) (Pap stain, 10X) – cellular smear showing scattered malignant squamoid cells against a necrotic background. Cercariform cell can be seen (arrow), (b) (20X) – cells are large, polygonal with abundant cytoplasm and hyperchromatic nuclei.

and HMWK [Fig. 3a, b, c, d]. Thus depending upon the morphology and immunohistochemical findings, a diagnosis of metastatic high grade transitional cell carcinoma with prominent squamous differentiation, abdominal wall was given.

The histopathology specimen could not be obtained in this patient due to lack of consent as well as clinical deterioration of patient's condition, hence the treatment (combination chemotherapy with gemcitabine and cisplatin) was started on the basis of the cytological diagnosis after a repeat radiological evaluation which showed multiple lung metastasis in addition to the enlarged cutaneous lesions.

## Discussion

Cutaneous metastasis is rarely seen with malignancies of the genitourinary tract. According to Mueller et al., the dermatological spread was seen in 1.3% of the total cases with primary urologic malignancies [2].

TCC of genitourinary tract commonly metastasizes to the regional lymph nodes followed by distant sites like lungs, bone, liver, kidneys, peritoneum, heart and brain whereas the favoured skin metastatic sites include head, face, neck, trunk, abdomen, suprapubic region and the extremities [3]. Metastasis to the ocular region and even scrotal skin, have also been reported [4,5].

The literature describes urinary bladder as more common organ than renal pelvis, associated with skin metastasis with a reported incidence varying from 0.2% to 2.0% [6,7].

However, the exact incidence of the same from renal pelvis is still not known because of the insufficient numbers of published reports in the English literature. Only six cases have been reported so far according to our knowledge [Table 1] [1,3,6–9].

Our case presented with a solitary firm to hard nodular lesion on the left side lower abdominal wall. Although the definite diagnosis requires or is usually confirmed on the histopathological specimen, in our case the same was made by cytological evaluation alone. The advantages of Fine Needle Aspiration Cytology (FNAC) are well known and are well highlighted in our case. The uniqueness of our case is that the diagnosis was made by cytomorphological evaluation and cell block preparation followed by immunohistochemical confirmation.

In this case, we did not receive the specimen of primary tumour as surgery was performed at some other institute with histopathological report showing low grade urothelial carcinoma of renal pelvis. However after 4 years, the tumour showed cutaneous metastasis and the recurrent tumour was of higher grade with an entirely different cytomorphology and prominent squamoid features, which needed to be differentiated from metastatic squamous cell carcinoma from an unknown primary. Also, urothelial carcino-

Please cite this article in press as: Singh P et al. Cytological diagnosis of a rare case of cutaneous metastasis from transitional cell carcinoma, renal pelvis. J Egyptian Nat Cancer Inst (2017), https://doi.org/10.1016/j.jnci.2017.11.001