

An original case of isolated unilateral adrenal metastasis from penile carcinoma: documentation by ^{18}F -FDG-PET imaging and histopathology

To the Editor: Published reports in Hell J Nucl Med [1] and elsewhere [2, 3] primarily emphasize the role of fluorine-18-fluorodeoxyglucose positron emission tomography (^{18}F -FDG-PET) in detecting disease involvement of penile carcinoma in the inguinal lymph nodes. We present a case of penile carcinoma where the ^{18}F -FDG-PET findings helped to diagnose an adrenal lesion suspicious for metastasis. The pattern of metastatic spread from carcinoma of the penis has been well described in the literature, inguinal and iliac nodes being the commonest sites [4]. The overall role of ^{18}F -FDG-PET in penile carcinoma is yet to be clearly defined. In patients with recurrent, well-differentiated penile cancer, ^{18}F -FDG-PET has been shown to be more sensitive than computed tomography (CT) for the localization of metastatic lesions [5]. We present our case as follows: a 57 years old man, diagnosed to have penile squamous cell carcinoma underwent ^{18}F -FDG-PET scan for disease status evaluation. He initially had presented with ulcer over penis one year previously and underwent excision of prepuce. Histopathological examination of the specimen showed it to be a squamous cell carcinoma. Six months later he presented with fixed bilateral inguinal lymph nodes for which he underwent bilateral gonadal node dissection along with chemotherapy. During the follow-up, ultrasonography (USG) of the abdomen following the last cycle of chemotherapy revealed a heterogeneous mass in the right suprarenal region measuring 3.8x4.6x4.8cm in size. The CT scan showed it to be a heterogeneously enhancing soft tissue mass (Fig. 1). There was no evidence of any other loco-regional disease. The patient was advised to have a ^{18}F -FDG-PET study for a whole body survey as well as to determine the nature of the right adrenal gland lesion. The intense tracer uptake during the ^{18}F -FDG-PET examination (SUVmax 10.2) with central photopenia shown in the right suprarenal lesion suggested disease involvement with central necrosis (Fig. 2). On the USG guided, fine needle aspiration cytology (FNAC), the lesion was found to be consistent with metastasis from the primary penile carcinoma (Fig. 3). Being the only metastatic site detected on the PET/CT scan, the patient was operated and the histopathology report of the excised adrenal mass (not shown in figure) confirmed the FNAC findings. To the best of our knowledge, this is the first reported case in the literature of adrenal



Figure 1. A CT Scan demonstrating heterogeneously enhancing soft tissue mass in the right suprarenal region.

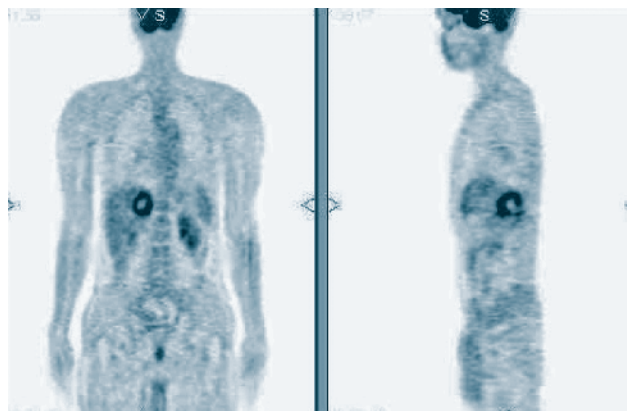


Figure 2. A ^{18}F -FDG-PET study showing a ^{18}F -FDG-avid lesion with photopenia at the centre ring like, in the right adrenal gland suggesting metabolically active disease with central necrosis.

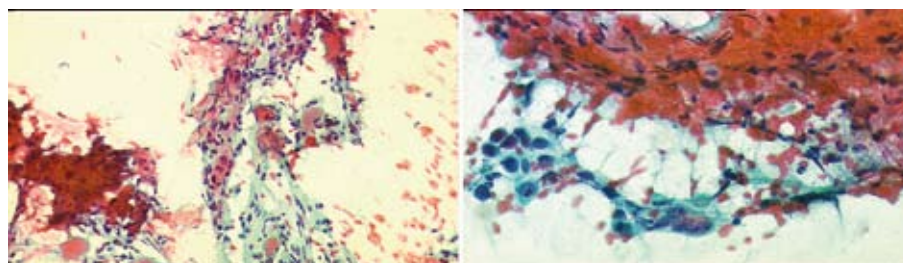


Figure 3. Cytopathology of the adrenal lesion (Papanicolaou stain; Magnification x20) demonstrates necrotic material with malignant keratinizing squamous cells.

metastasis arising from primary squamous cell carcinoma of the penis.

Penile carcinoma is a rare malignancy of the male accounting for 1% of all male malignancies [2]. This disease occurs most commonly in the 6th decade of life with commonest histological type being squamous cell carcinoma and majority of the patients presenting with a non-healing ulcer over penis. The diagnosis is usually established by wedge biopsy from the edge of the lesion and by FNAC of the inguinal lymph nodes, if they are enlarged. Thus, at present, imaging modalities have a limited role in this disease. If penile carcinoma is limited to the penis without fixed regional lymph nodes, treatment is primarily surgical, whereas if there is involvement of the inguinal nodes treatment is a combination of chemotherapy and radiotherapy. Distant metastases are uncommon and late, even in advanced loco-regional disease [1]. In a series of 224 patients 8 patients (3.6%) had histologically proven distant metastases. The liver was the site of involvement in 4 cases and the lungs in 3 cases. One patient had metastasis to the thyroid gland [6]. Few cases of osseous metastases have also been reported [6, 7]. Owing to the rarity of distant metastases, no definite guidelines for treatment in such cases have been formulated. It is proposed that in primary staging or in the follow-up of penile cancer patients, besides the main indication for ¹⁸F-FDG PET is to search for metastatic involvement and plan surgery of the inguinal lymph nodes [8]. PET/CT may be useful for planning surgery with regard to distant metastases. We present this case as the first case of adrenal metastasis from penile carcinoma.

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