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OLGU YAZISI / CASE REPORT

PRİMER BÖBREK TÜMÖRÜNÜ TAKLİT EDEN AKCİĞERİN SKUAMÖZ HÜCRELİ KARSİNOMASININ BÖBREK METASTAZI: PET BT BULGULARI

METASTATIC RENAL TUMOR FROM THE SQUAMOUS CELL CARCINOMA OF THE LUNG MIMICKING A PRIMARY RENAL TUMOR: PET CT FINDINGS

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ÖZ

Bu olguda akciğerin skuamöz hücreli karsinomunun böbrek metastazı sunuldu. 51 yaşında erkek olgu primer akciğer lezyonunun tedavisini takiben 2 yıl sonra asemptomatik hematüri ile başvurdu. Araştırmalar sonucunda bölgesel lenf nodu metastazının eşlik ettiği primer renal tümörü taklit eden sağ böbrek kitlesi tespit edildi. Sağ radikal nefrektomi sonucu akciğer karsinomunun böbrek metastazı olarak rapor edildi. Kemoterapi tedavisine rağmen hastalıkta progresyon izlendi

ANAHTAR KELİMELER: Böbrek tümörü, Metastaz, Pet bt

ABSTRACT

We report a case of metastatic renal tumor from squamous cell lung cancer. A 51 years old man presented with an asymptomatic hematuria 2 years after treatment of primary lung lesion. Investigations showed a tumor in the right kidney which was accompanied with regional lymph node metastasis mimicking a primary renal tumor. The right radical nephrectomy showed the renal metastases from lung carcinoma. He had progressive disease though chemotherapy regimen.

KEYWORDS: Renal tumor, Metastases, Pet ct

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INTRODUCTION

Clinically, the lung carcinoma metastases of renal parenchyma is uncommon. However autopsic series prove that the kidney is frequent metastatic organ in lung carcinoma (1). Since renal metastases mainly locate in the cortical zone close to glomerular vascular plexus and seldom spread to urothelial tissue, they frequently do not present clinical symptoms and many patients have no hematuria or hyperazotemia (2). Renal metastases from nonsmall cell lung carcinoma are restricted to a few anectodal case reports in literature. Even when present lung carcinoma metastases of renal parenchma are usually a part of disseminated disease or seen as bilateral renal metastases (3-7). We reported the PET-CT and MRI findings of a renal tumor with regional lympadenopathies in a 50 year old male with squamous cell carcinoma of the lung.

CASE REPORT

51-year-old man was applied to our urology department for the renal mass detected in abdominal ultrasonography in another hospital. In our hospital MRI examination was done for characterisation of the renal mass. A 4 cm–sized renal mass was detected in the upper and middle pole of the right kidney on abdominal MRI. The mass was hypointense on T1 and T2 weighted images compared with renal parenchyma. The mass had heterogenous contrast enhancement and infiltrated the renal pelvis (**Fig 1 a**). In addition there were multiple lymphadenopathies that formed conglomerations in the right hilus, the interaortocaval and the right paraaortic region (**Fig 1 b**). The urine analysis showed four positivity for erytrocyte. In his clinical history, he was diagnosed as the squamous cell carcinoma of the lung two years ago. Mediastinoscopic biopsy showed squamous cell carcinoma of poorly differentiated type. He was accepted as inoperable and was treated with the cisplatin and docetaxel chemotherapy regimen. In our hospital, PET-CT was performed for detecting any distant metastases and staging of the patient. Bilateral lung metastases were detected. The intense FDG accumulation (SUVmax=11,6) was detected in the right renal mass and also in the right paraaortic and the hilar lymhadenopathies (SUVmax=8,5) (**Fig 2 a,b**). There was FDG accumulation in the right sacroiliac region also (SUVmax 3.1). The differential diagnosis of a primary renal tumor and a metastatic renal tumor could not be made by radiological findings. A right radical nephrectomy with the right hilar, the paraaortic and the interaortocaval lymph node dissection was carried out without any complications. Macroscopic examination of the specimen showed a tumoral mass on upper and middle pole of the right kidney. A tumor measuring 4x3x3 cm was found. Histopathological diagnosis was metastatic epidermoid carcinoma. There was no capsular infiltration but the renal pelvis was infiltrated. Immunohistochemical staining was positive for cytokeratin, EMA, and TTF, and negative for vimentin and CD10.

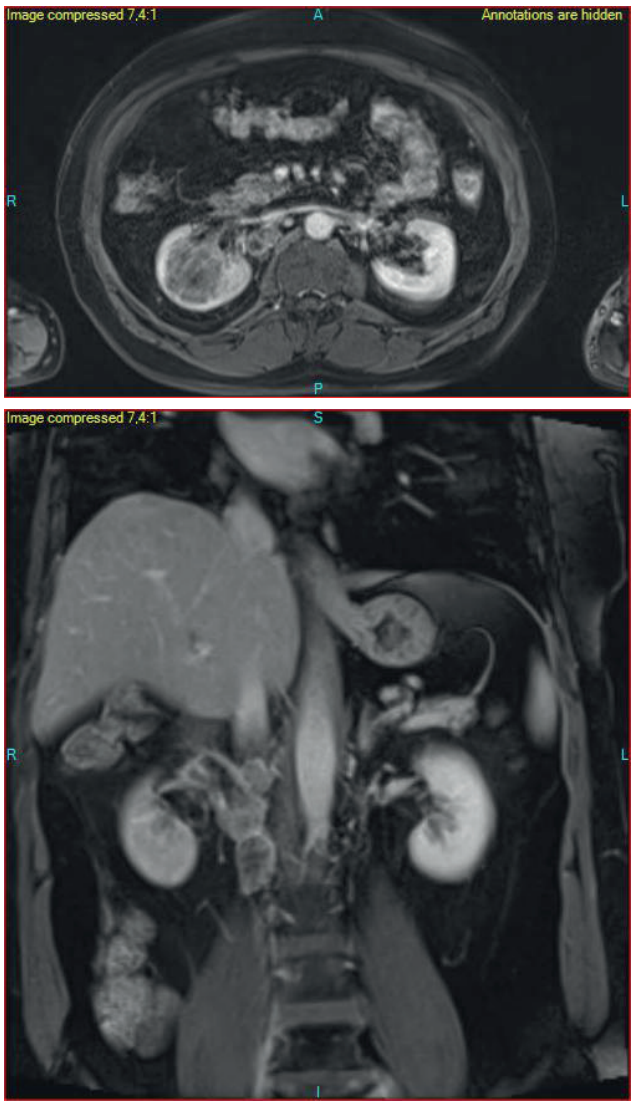

Figure 1 a,b: Axial and coronal fat saturated T1 weighted postcontrast images showed 4x3 cm sized heterogenous tumor in the right kidney. There were also multiple conglomerated lymhadenopathies in the right hilar, the right paraaortic and the interaortocaval region.

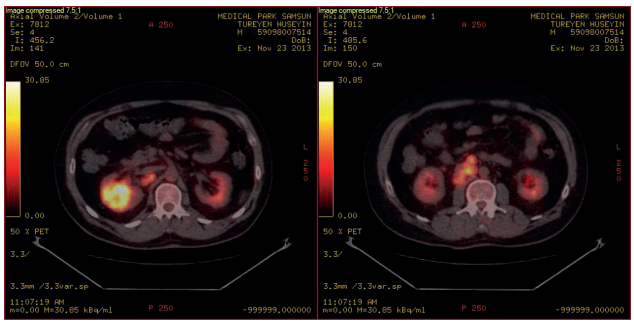

Figure 2 a,b: Axial PET CT images showed the right renal tumor and the regional conglomerated lymphadenopathies showing high SUVmax values representing malignancy.

The 15 of 16 lymph nodes were also positive for the disease. 4 months later, after chemotherapy regimen (gemcitabine and zoledronic acid regimen), he had thorax CT examination. Bilateral lung metastasis were increased in number and size.

DISCUSSION

Lymphomas, carcinoma of the lung, breast, stomach, pancreas, and colon were the tumors found most commonly to have metastatic or secondary tumor in the kidney. In imaging renal metastases are generally small, bilateral, and multifocal lesions and the solitary renal metastases are generally not accompanied with regional lymphadenopathies (8). In addition it is known that retroperitoneal metastatic lymph nodes were mostly from urogenital and abdominal malignancies but lung carcinoma metastases to retroperitoneal lymph nodes were rarely reported (9). In literature only one case with metastatic renal tumor from lung accompanied by a regional lymph node metastases was reported before (7). Because the solitary renal tumor with hilar lymphadenopathies favors the primary malignancy, the presence of the hilar lymphadenopathies cause diagnostic difficulties.

It is known that the presence of regional lymph node metastases from primary renal tumor carries a poor prognosis, with reported 5- year survival rates of 5%–30%. In surgery while there is no consensus on the anatomic extent of lymph node dissection for renal cell carcinoma, the suspected primary lymphatic drainage from the right kidney are the paracaval, precaval, retrocaval, and interaortocaval lymph nodes; primary lymphatic drainage from the left kidney are the paraaortic, preaortic, retroaortic, and interaortocaval lymph nodes (10). In addition Crispen et al reported that despite the lack of hilar lymph node involvement, metastases was occasionally (45%) present in nodes beyond the hilar region (11). In our case the right hilar, paracaval and interaortocaval lymphadenopathies were detected in imaging, mimicking the spread of metastatic lymph nodes of primary renal tumors. We thought that lymph node metastases were by lymphatic drainage.

The utilisation of 2-deoxy-2-fluro-d-glucose (FDG) positron emission tomography has been well established in clinical oncology and it has been increasingly used for the diagnosis, staging, measuring treatment response and management of patients for many different types of cancers. Kumar et al investigated FDG accumulations of metastatic renal tumors (lymphoma 1, lung cancer three, others four) and primary renal tumors. They showed that the sensitivity of FDG-PET was slightly better in detecting primary malignant lesions as compared to metastatic lesions (89% vs 83%). Among the three renal masses from other primaries that were missed by FDG-PET no abnormal uptake were detected in the kidney renal parenchyma. In addition they did not found any association between histological type of tumor and degree of FDG uptake (12). In our case the pathological examination showed high mitotic activity of the renal mass (10/50) and the large necrotic areas which show high grade tumor were consistent with primary pathology of poorly differentiated squamous cell carcinoma. In addition, the metastatic renal mass had high SUVmax values correlating with the poor differentiated histological type and high SUVmax value of primary mass showing high metabolic activity. The FDG accumulation of lymph nodes were also intense. PET has not been generally used for the screening of RCC due to the urinary excretion of the radiotracer, which can mask the the presence of primary lesion. Ametabolic tumors can not be detected with PET CT. Namura et al discussed the impact of max SUVmax evaluated by PET on survival for patients with advanced renal cell carcinoma. In that study, they demonstrated that the SUV max evaluated by PET CT is a use-

ful predictive imaging biomarker for survival of patients with advanced RCC. The patients with RCC tumors showing high SUVmax demonstrated poor prognosis (p=0.005) (13). Further studies needed for evaluating correlation between the histological type and SUVmax value of primary or metastatic renal tumors.

It was reported previously all patients who were found to have metastases to kidney showed evidence of clinical progression or radiographic evidence of other metastases from their non-renal malignancy (14). In our case although the chemotherapy treatment, the patient had also progressive disease.

Our case was emphasized that in patients with lung epidermoid carcinoma, the renal mass with ipsilateral lymph node metastases can be a metastatic tumor rather than a primary mass and histopathological diagnosis was suggested in long life expectancy. PET CT can show variable SUVmax values in metastatic renal tumor. High SUVmax values may correlate with poorly differentiated primary tumor representing poor prognosis as in our case.

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