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Case Report

Activity of targeted therapy in squamous cell carcinoma of the kidney: Case report with review of literature

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Primary Squamous Cell Carcinoma of the kidney is a very rare clinical entity, having an incidence of about 0.5% of all renal malignancy. The lack of characteristic presentation leads to delay in the diagnosis and treatment resulting in grave prognosis for these patients. In this paper, we report a case of renal squamous cell carcinoma treated with Sunitinib with a good response, an acceptable safety profile and we analyze different data about diagnosis and treatment of this rare entity.

Key words: Carcinoma, kidney, squamous cell, sunitinib, targeted therapy.

INTRODUCTION

Renal Squamous cell carcinoma (RSCC) is a rare neoplasm of the upper urinary tract. The incidence of this tumour is 0.5% of all renal malignancy (Busby JE et al., 2006). It is frequently associated with a history of chronic kidney infection, untreated urolithiasis, abuse of analgesics and squamous metaplasia (Odabas et al., 2000).The insidious onset of symptoms and lack of any pathognomonic sign leads to delay in diagnosis and treatment with unfavorable prognosis .This report highlights the rarity and the aggression of this tumour.

CASE REPORT

A 56 years post menopausal female patient presented with history of intermittent left flank pain of 6 months duration. The pain has aggravated in intensity and increased in frequency from last one month. There was no history of hematuria, fever, dysuria, or abdominal lump. The clinical examination revealed mild tenderness in left renal angle, however there was no palpable mass. There was no palpable lymph node. On routine hematological investigation (hemoglobin level, kidney function, liver function, serum calcium and uric acid) were all within normal limits.

Contrast-enhanced computed tomography showed a large left kidney mass measuring 61 × 45 mm associated with grade 2 hydronephrosis (Figure 1) and left renal calculus in inferior calyx; A few of ipsilateral paracaval and paraumbillical lymph nodes were enlarged. She underwent a total nephrectomy without any complication.

Histopathological examination revealed features of moderately differentiated invasive squamous cell carcinoma (Figure 2), which was involving the lymph nodes; Intra- or peritumoral lymphovascular invasion was detected. Immunohistochemical study showed positive

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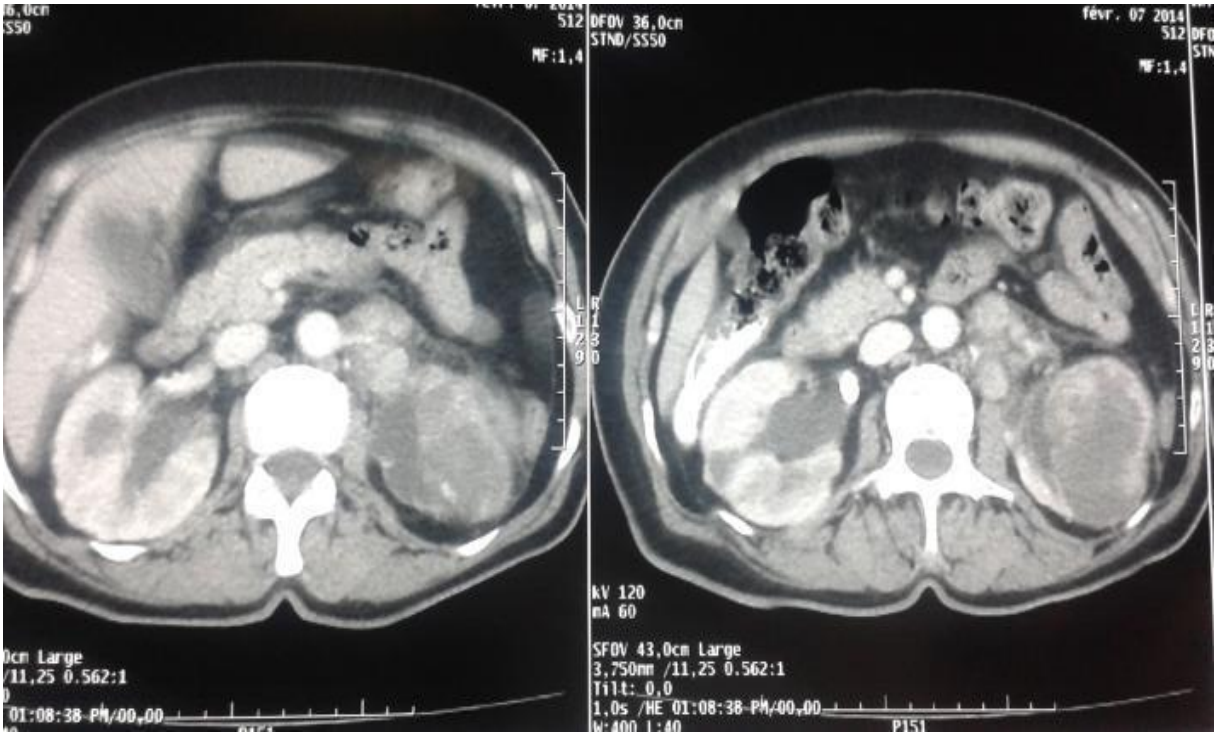

Figure 1. Contrast-enhanced computed tomography showed a large left kidney mass with hydronephrosis.

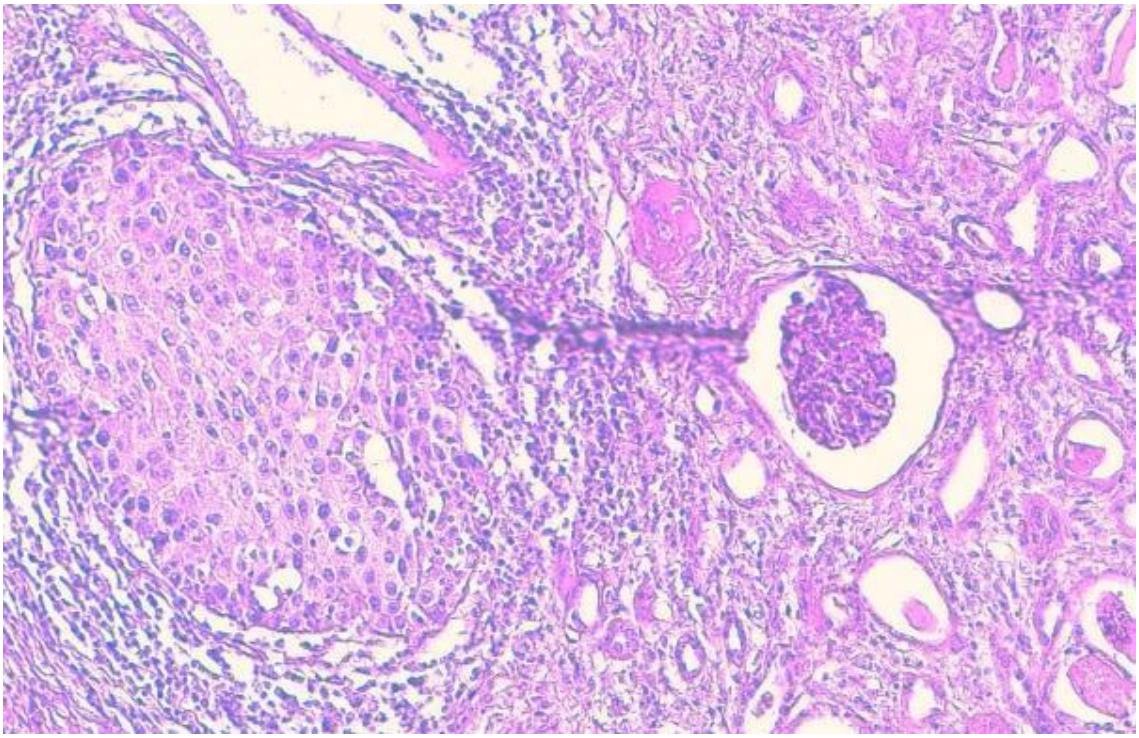

Figure 2. Tumor cells are large and polygonal with abundant eosinophilic cytoplasm (HESx20).

reaction for CK7 and P63 .Thoracic-abdominal-pelvic CT showed lesion in the lung suggestive of metastasis; so the tumor was classified pT3N1M1.

Systemic chemotherapy was not feasible because of the poor performance status of the patient and she was put on targeted therapy based Sunitinib with a good response (clinical and radiological stability), and an acceptable safety profile (fatigue and grade 2 nausea and vomiting), the follow-up was 9 months.

DISCUSSION

Primary renal squamous cell carcinoma is an extremely rare entity with a variable incidence of about 5-15% of all urothelial cancer and 0.5% of all renal malignancy (Busby et al., 2006). The transitional cell type is the most frequently diagnosed (85%-95%) followed by squamous cell carcinoma (6-15%) (Karabulut et al., 2002). The mean age of presentation is 56 years with no predilection for side (laterality) (Holmang S et al, 2007).

RSCC is frequently associated with long standing staghorn calculi, chronic kidney infection, and hydronephrosis .Smoking or tobacco chewing was also observed in 60% of the patients as a known predisposing factor. However cases have been reported in which no apparent etiological factors could be detected (Busby et al., 2006; Talwar et al., 2007).

Pain and hematuria are the most common presenting Symptoms. Hypercalcemia, leukocytosis and thrombocytosis have been reported as a part of paraneoplastic syndromes in RSCC cases (Cadeddu et al., 1998; Er et al., 2001). Although being nonspecific, a solid mass, hydronephrosis and calcifications are common radiologic findings. The diagnosis is usually confirmed by histopathological examination of the surgical specimen.

Nephrectomy with or without ureterectomy appears to be the treatment of choice. Nephrectomy is necessary even in the face of metastatic disease; to establish a histological diagnosis, for control of symptoms such as pain, fever and hematuria or to eliminate the source of infection (Holmang et al., 2006).

Some previous studies indicate that chemotherapy or radiotherapy has little effect for the control of local symptoms in metastatic disease but have failed to show any survival benefit (Holmang S et al 2007). However, extensive review of the available medical literature on this rare malignant entity was performed and we did not find any case treated by targeted therapy till date. We probably report the first case of primary SCC of renal parenchyma treated with Suinitinib (Sutent®) which a receptor protein-tyrosine kinase inhibitor. It inhibits the actions of vascular endothelial growth factor (VEGF) and is an angiogenesis inhibitor. Sutent is indicated for the treatment of gastrointestinal stromal tumor after disease progression on or intolerance to Imatinib, for advanced renal cell carcinoma, and for advanced pancreatic neuroendocrine tumors in patients with unrespectable locally advanced or metastatic disease. The main side effects include chest pain, general ill feeling, and uneven heart rate.

In our case, the diagnostic was establish in a late stage and chemotherapy was not feasible because of the poor performance status of the patient with Sutent were able to get a stability of the metastatic disease with an acceptable safety profile.

Conclusion

Renal squamous cell carcinoma is a rare and aggressive tumor; most of the patients present with advanced disease resulting in grave prognosis for these patients; targeted therapy based Sunitinib can be considered a therapeutic option in the metastatic stage.

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