

Squamous Cell Carcinoma of the Renal Pelvis: Rare Case Report

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Abstract Primary squamous cell carcinoma (SCC) of the kidney is an extremely rare entity representing only 0.5-15% of all urothelial cancers. Herein, we reported a rare case of renal cell carcinoma with SCC extended to the pelvis. A 56 year-old female patient referred to the oncology clinic with complaints of pain in the right flank. The CT showed a hypodense renal mass of size approximately 2×2.1 cm in the upper pole of the right kidney. High grade urothelial carcinoma and squamous cell carcinoma extended to renal capsule, but not pass to perirenal fat. Vascular invasion was present, but perineural invasion was not seen. Ureteral margin was free of tumor. Biopsy showed one hilar lymph node involved with tumor in the near right kidney. A few slightly stones smaller than normal 0.4×0.9 cm can be seen in the calyx of the asymptomatic hydronephrosis of left kidney. SCC is one of the rare histological tissues in the kidney and hydronephrosis is the most common complaints in more patients with this malignancy.

Keywords: renal cell carcinoma, SCC, Kidney Stone

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1. Introduction

Primary squamous cell carcinoma (SCC) of the renal pelvis is an extremely rare entity representing only 0.5% to 15% of all urothelial malignancies [1]. The incidence of this tumor is 1.4% of all renal malignancy [2]. These tumors are highly aggressive, high grade, and locally advanced or metastatic at the time of presentation related to poor prognosis [3]. It is clinically unsuspected due to its rarity and inconclusive clinical and radiological features [1]. In this study, we reported a rare case of renal cell carcinoma with SCC extended to the pelvis.

2. Case Presentation

A 56 year-old female patient referred to the oncology clinic with complaints of pain in the right flank. Due to decreasing of renal function undergoing radical nephrectomy, surgery was followed by frozen section. Laboratory tests were normal and purified protein derivative (PPD) skin test was negative except erythrocyte sedimentation rate (ESR) that was positive. The CT scan showed a hypodense renal mass of size approximately 2×2.1 cm in the upper pole of the right kidney (Figure 1).

Non-contrast CT scan of the abdomen and pelvic showed a cystic mass with dimension of 7×8 cm in lower bridge right kidney and several nodules in its lower part (Figure 2).

High grade urothelial carcinoma and squamous cell carcinoma extended to renal capsule, but not pass to perirenal fat. There was vascular invasion, but perineural invasion was not seen. Ureteral margin was free of tumor. Biopsy showed one hilar lymph node involved with tumor in the near right kidney. A few slightly stones smaller than normal 0.4×0.9 cm can be seen in the calyx of the asymptomatic hydronephrosis of the left kidney (Figure 3).

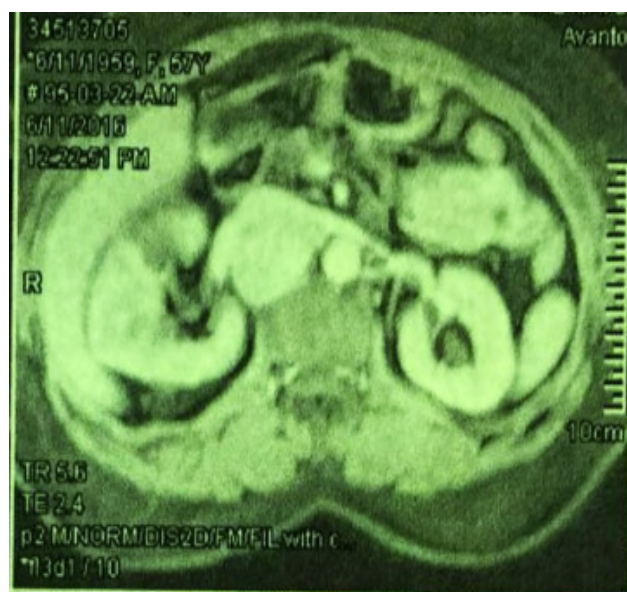


Figure 1. Hypodense renal mass of size approximately 20×21 mm in upper pole of right kidney

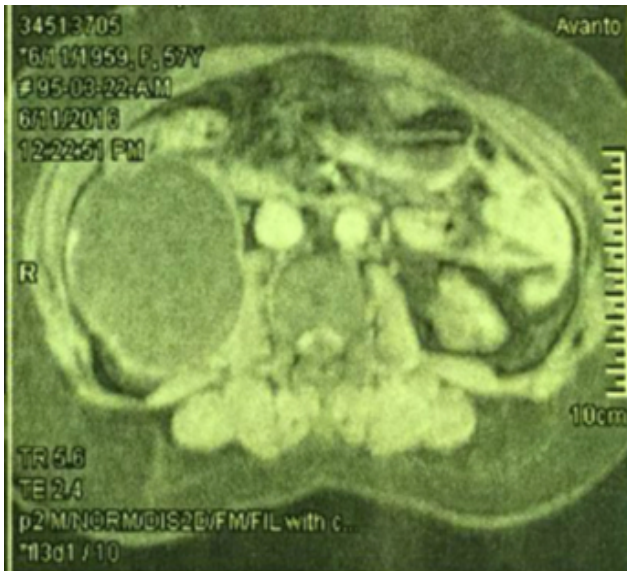


Figure 2. CT scan demonstrates a large cystic lesion



Figure 3. CT scan showing left renal stones

Liver, spleen and pancreas were normal (Figure 4). Tumor necrosis was 20%. Immunohistochemistry for CK7 and CK20 is done that CK7 was positive, but CK20 was negative.

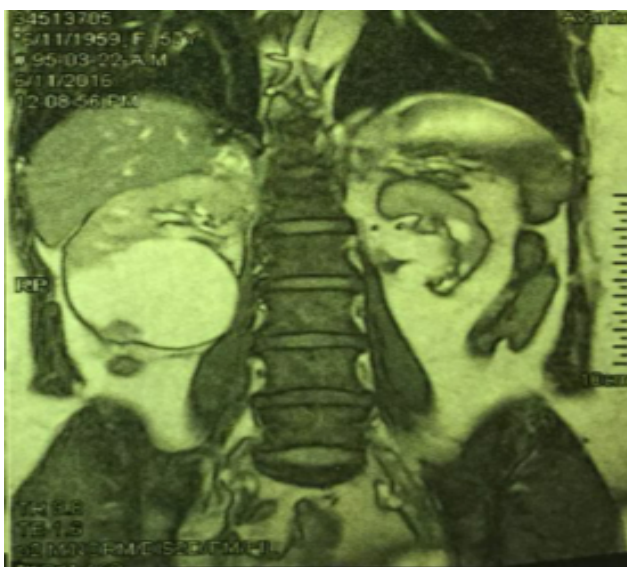


Figure 4. Kidney tumor image

3. Discussion

SCC in the kidney is very unusual and is known to increase from collecting system [4]. Renal pelvic tumors are almost never palpable clinically; however, they may block the urinary outflow and lead to palpable hydronephrosis. Hydronephrosis is more common in renal tumor than renal pelvic ones [2]. Lanjewar et al. [5] reported a case of primary SCC of the kidney that had no calculus or hydronephrosis, whereas most cases are associated with calculus disease or hydronephrosis that our case had hydronephrosis. A most common age group of presentation is 50 to 70 years [6] like our study that patient had 56 years old. The survival of patients with central renal SCC was reported to be significantly shorter than those with peripheral renal SCC [7]. Diagnosis of renal SCC is difficult as characteristic features usually not associated with renal SCC, added by imaging techniques which revealed only calculi and hydronephrosis [3]. Li et al. [8] reported incidence of coexisting renal stone in 100% cases, like our study. Lee et al. [7] classified these tumors into two groups, according to the localization of the tumors as central and peripheral. Central renal cell carcinoma presents more intraluminal components and is usually associated with lymph node metastasis, whereas peripheral renal SCC presents with prominent renal parenchymal thickening and might invade the perirenal fat tissue before lymph node or distant metastasis could be identified [7]. This case was high grade urothelial carcinoma and SCC extended to renal capsule, but not passing to perirenal fat. Primary treatment of renal SCC is nephrectomy, but adjuvant chemotherapy or radiotherapy indicated in metastatic disease [3]. This tumor tends to present at a more advanced stage [9].

4. Conclusion

SCC is one of the rare histological tissues in the kidney. Hydronephrosis is the most common complaints in more patients with SCC of the renal pelvis that needs to more research in future on the association of between hydronephrosis and this tumor.

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