

Squamous Cell Carcinoma of the Left Kidney Presenting with Splenic Hematoma

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Abstract

Renal squamous cell carcinoma (RSCC) is a rare malignancy of the upper urinary tract characteristically presenting with advanced stage. Most patients have a history of chronic urolithiasis, renal infection or abuse of analgesics. A 52-year-old male patient presented to our emergency department with left flank pain and the signs of acute renal failure. He had a history of untreated renal calculi. After appropriate conservative management and two sessions of hemodialysis, extensive investigations demonstrated splenic hematoma extending to the superior surface of the enlarged left kidney without a remarkable mass size. Percutaneous renal biopsy revealed squamous cell carcinoma of the left kidney. Herein we report a case of RSCC presenting with intracapsular hematoma of the spleen, thought to be the invasion of the tumor at the left kidney. The possibility of malignancy should always be kept mind when identifying controversial clinical signs and subtle imaging findings in patients with long standing untreated urolithiasis.

Keywords: Kidney, Squamous Cell Carcinoma, Spleen, Hematoma, Urolithiasis.

Introduction

Renal squamous cell carcinoma (RSCC) is a rare malignancy of the upper urinary tract characteristically presenting with advanced stage (1). Most patients have a history of chronic urolithiasis, renal infection or abuse of analgesics (2). We report here a case of RSCC presenting with intracapsular hematoma of the spleen, thought to be due to the invasion of the tumor in the left kidney.

Case Report

A 52-year-old man had been diagnosed with bilateral renal calculi and left non-functioning kidney (Figure 1). Right renal stones were successfully treated after two sessions of right percutaneous nephrolithotomy elsewhere 6 months ago. Left renal

stones with non-functioning kidney had been left untreated. He presented to our outpatient clinic with left side pain, loss of 20 kilograms of body weight for the last 2 months and concurring symptoms of acute renal failure. He had history of recurrent renal colic episodes on the left side and renal stone disease for about 27 years. Physical examination was unremarkable except for the substantial left flank tenderness and the anemic and cachectic status.

The serum hemoglobin level was 6.1 g/dl (13.0

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- 18.0), white blood cell count $13.100/\text{mm}^3$ (4.000 - 10.000), red blood cell count $2.64 \times 10^6/\mu\text{l}$ (4.0 - 6.0), platelet count $751.000/\text{mm}^3$ (150.000 - 400.000), C-reactive protein 134 mg/dl (0 - 8), sedimentation rate 112 mm/h, calcium 13.1 mg/dl (8.4 - 9.7). The serum parathyroid hormone level was 13 pg/ml (9 - 55). The patient underwent hemodialysis twice due to acute renal failure. Serum creatinine levels decreased from 6.9 to 1.6 mg/dl after hemodialysis and stayed stable during the evaluation period.

Abdominal CT scan revealed a 5-cm splenic hematoma extending to the superior surface of the enlarged left kidney without a remarkable mass (Figure 2). No hematologic disorder or history of trauma was found to explain the hematoma of the spleen.



Figure 1: KUB showing bilateral renal calculi. Renal stones on the right side were successfully removed after 2 sessions of percutaneous nephrolithotomy, whereas left side was untreated.

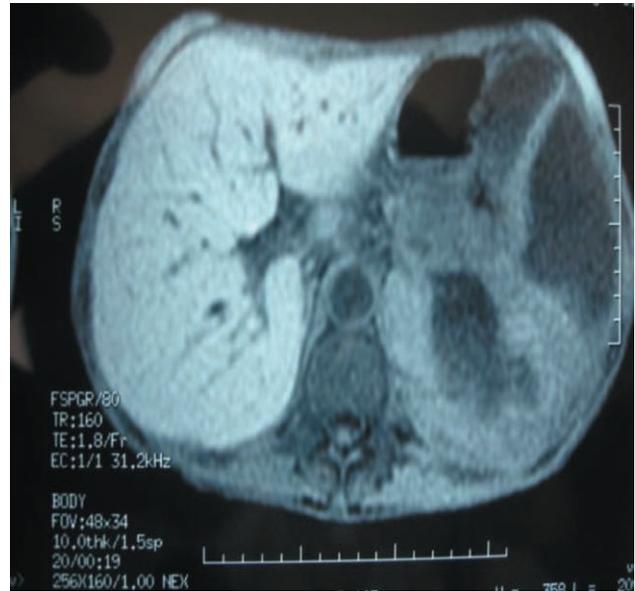


Figure 2: CT scan showing left renal paranchimal irregularity with the hematoma of the spleen

peripheral smear and serum immunofixation electrophoresis were performed and no other pathologic finding was observed indicating absence of any hematologic disorder. Moreover, two large renal calculi were localized in the ureteropelvic junction and mid-pole of the left kidney associated with grade 2 hydronephrosis. On the other hand a 2.5 cm of well-limited mass in the liver was found on CT scan. During the observation of this co-existing mass, the expansion in the size within the days was detected by ultrasound, and then a liver biopsy was performed. The result was negative for malignancy indicating no evidence of primary tumor or metastasis in the liver.

Biochemical evaluations revealed anemia, leukocytosis, thrombocytosis, hypercalcemia, increased sedimentation rate and C-reactive protein. The evaluation for an extrarenal malignancy with MRI, bone scan, chest CT, liver and rectosigmoidoscopic investigation were unremarkable.

Percutaneous left renal biopsy revealed squamous cell carcinoma of the kidney (Figure 3). The benefits and the risks of all treatment options including surgery, radiotherapy and chemotherapy were discussed with

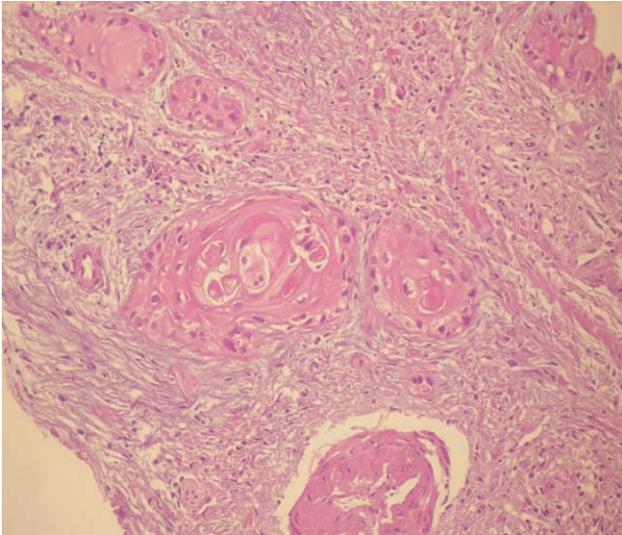


Figure 3: Left renal biopsy material demonstrating infiltrating squamous cells with hyperchromatic nuclei and keratin pearls.

the patient and his family. However, frankly none of the approaches were accepted due to his poor performance status and then a conservative therapy was carried out. The patient was lost due to cancer progression within 2 months after the diagnosis was made.

Discussion

Squamous cell carcinoma of the renal collecting system is a rare malignancy with poor prognosis accounting for about 10 % of renal pelvic tumors and 0.5 % of all renal tumors (3, 4). They are frequently associated with long standing staghorn calculi, chronic kidney infection, hydronephrosis and analgesic abuse (4). Hypercalcemia, leukocytosis and trombocytosis have been reported as a part of paraneoplastic syndromes in RSCC cases (5, 6). Although being nonspecific, a solid mass, hydronephrosis and calcifications are common radiologic findings, which may explain why the diagnosis could be missed before the histopatological examination. More specific findings, such as an enhancing extraluminal and exophytic mass on CT scan described previously (7), were not present in our

case.

Previous studies reported that 94% of RSCC usually present with pT3 or pT4 stage at the initial diagnosis. Of patients with RSCC, 21 % are reported not to be eligible for surgery due to associated comorbidities or advanced disease (2, 8). Early metastatic spread is common and the prognosis is poor with only 7.7 % of these cases surviving more than 5 years. A median of 5-to-11-month of survival is reported in previous case-series as well (3, 9, 10).

A number of approaches have been outlined for patients with RSCC in the literature. A surgical option may sometimes result in cure, but, a poor response to surgery, chemotherapy and radiotherapy is the norm, resulting in short survival periods for the most of the patients (2). Although our patient shelters almost all of the etiological factors and paraneoplastic syndromes commonly associated with this tumor, the initial presentation with splenic hematoma was unusual, which let us to further investigations. The evaluations revealed no hematological disorders or history of trauma, which might have been the cause of this hematoma. In retrospect, these findings strongly convinced us that the invasion of the tumor might be the cause of this unusual clinical situation.

Due to the low incidence of RSCC, associated renal calculi and deceptive CT findings of the mass, it is initially hard to recognize this rare malignancy presenting with renal calculi. In this case, xanthogranulomatous pyelonephritis was strongly thought to be responsible for the CT findings in the left kidney, since xanthogranulomatous pyelonephritis and renal carcinoma may sometimes coexist (11, 12).

In this present case, several investigations were carried out to exclude possible clinical situations and arrive at the right diagnosis. When RSCC comes into the mind as the diagnosis, the clinical scenario of the patient can pose a diagnostic dilemma for the physician and requires thorough step wise workup. However, in some uncommon cases with unusual findings, as in the present one, the findings can

postpone the ultimate diagnosis.

Conclusions

Due to the poor prognosis of RSCC and its deceptive clinical presentation, our case again suggests that high index of suspicion should be maintained in favor of renal malignancy when identifying controversial clinical signs and subtle imaging findings in patients with long standing untreated urolithiasis. We conclude that the possibility of malignancy should always be kept in mind when practicing urologists face complicated cases as seen in our patient.

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