Case Report: Primary Squamous Cell Carcinoma of Kidney-An Unusual Malignancy

Abdul Rashid Lone*, Shiekh Aejaz Aziz, Mohmad Hussain Mir, Sumyra K. Qadri, Arif N. Bhat, Farhana S. Bagdadi, Syed Nisar and Ulfat Ara

Medical Oncology, Sheri Kashmir Institute of Medical Sciences, Srinagar-190011, India

Abstract: Primary Squamous Cell Carcinoma of the kidney is a rare clinical entity involving the upper urinary tract.These patients characteristically presents in advanced stage. This rare malignancy of the kidney lacks the characteristic clinical presentation of common renal cell carcinoma like hematuria, pain and a palpable mass. We report a 60 year old male who presented with a history of recurrent colicky right flank pain for 6 months duration which worsened in intensity and increased in frequency from last 1 month. He also had a history of untreated right renal calcular disease. On evaluation, he was found to have right renal mass with CT guided biopsy revealing Squamous cell carcinoma of kidney.

Keywords: Kidney, Squamous Cell Carcinoma, Renal Calculi, Renal squamous cell carcinoma, Urothelial tumours.

INTRODUCTION

Primary malignancies of the renal collecting system are rare accounting for 4-5% of all urothelial tumours [1]. Most frequently diagnosed cases are the Transitional cell carcinomas, 85-94% [2,3]. Renal Squamous Cell carcinoma (RSCC) is a rare malignancy of the upper urinary tract charecteristically presenting in advanced stage [4]. The incidence of primary renal squamous cell carcinoma of the kidney ranges from 0.5% to 8% [5].

CASE REPORT

A 60 year old male chronic smoker, normotensive, and non diabetic had history of right sided nephrolithiasis for last 2 years which was not treated. He presented with history of intermittent right flank pain of 6 months duration. The pain has aggrevated in intensity and increased in frequency from last one month. There was no history of hematuria, fever, dysuria, or abdominal lump. He had no family history of such cancers. General Physical Examination of the patient was normal. His chest examination, cardiovascular examination and neurological examinations were normal. On Abdominal examination there was mild tenderness in right renal angle, however there was no palpable mass. Complete blood count, Erythrocyte sedimentation rate, biochemical analysis (kidney function, liver function, serum calcium & uric acid) were all within normal limits. Serum alkaline phosphatase was borderline elevated (420 U/ml against upper limit of normal 380 U/ml). Routine urine examination was within normal limits. Urine for malignant cells was negative. Ultrasound examination of the abdomen showed an enlarged right kidney 13.3*6.4cm with an altered echopattern, 15*44 mm calculus with a cyst 50*42*48 mm at lower pole of right kidney. Left kidney was normal (Figure **1**). Intravenous pyelogram showed a right renal calculus in superior calyx with focal calcification and calycial diverticulae (Figure **2**). CECT of the abdomen showed a heterogenous enhancing mass in upper pole of right kidney with multiple speckled calcification and infiltration into the posterior abdominal wall (Figure **3**). Chest Xray was normal.

CT guided biopsy of the right renal mass lesion was done. Microscopic Examination revealed Squamous Cell Carcinoma-Keratinizing of right kidney (Figure **4**).

Patient was subjected to laparotomy and on per op found to have a large tumour arising from right kidney, fixed and infiltrating into right psoas muscle posteriorly and right sided 12^{th} rib as well. Tumour was found adherent to undersurface of liver.

Bone Scan was done which revealed an increased tracer uptake seen in the right 11^{th} & 12^{th} rib anteriorly suggestive of metastasis. Patient was put on palliative chemotherapy with Methotrexate, Bleomycin and Cisplatin combination of drugs in the form of injection Methotrexate 200 mg/m2 i.v d1, 15 and 22, injection Cisplatin 20mgs/m2/d I.V D2-D6 and Injection Bleomycin 10u/m2 i.v d2-6 to be repeated every28 days [10].

DISCUSSION

Squamous Cell Carcinoma of the urinary tract is more frequently reported in urinary bladder and male urethra and is rarely encountered in renal pelvis [6, 7].

*Address correspondence to this author at the Medical Oncology, Sheri Kashmir Institute of Medical Sciences, Srinagar-190011, India;
Tel: +919419046000; Fax: 0194-2403470; E-mail: drarlone@yahoo.co.in

ISSN: 1929-2260 / E-ISSN: 1929-2279/13

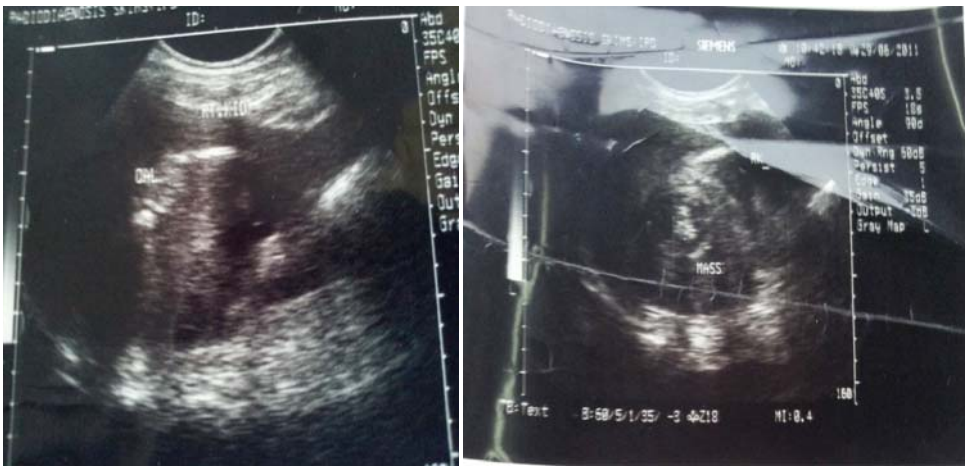


Figure 1: USG examination of the abdomen showed an enlarged right kidney 13.3/6.4cm with an altered echopattern, 15/44 mmcalculus with a cyst 50/42/48 mm at lower pole of right kidney. Left kidney was normal.

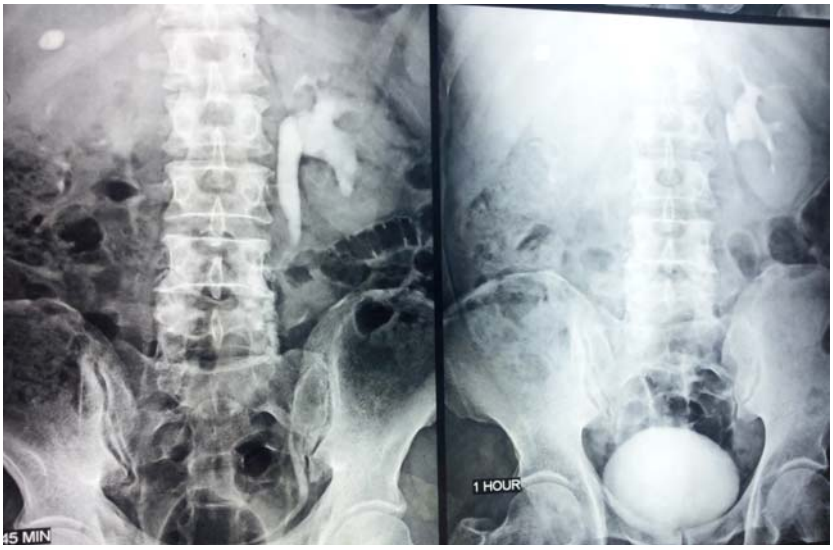
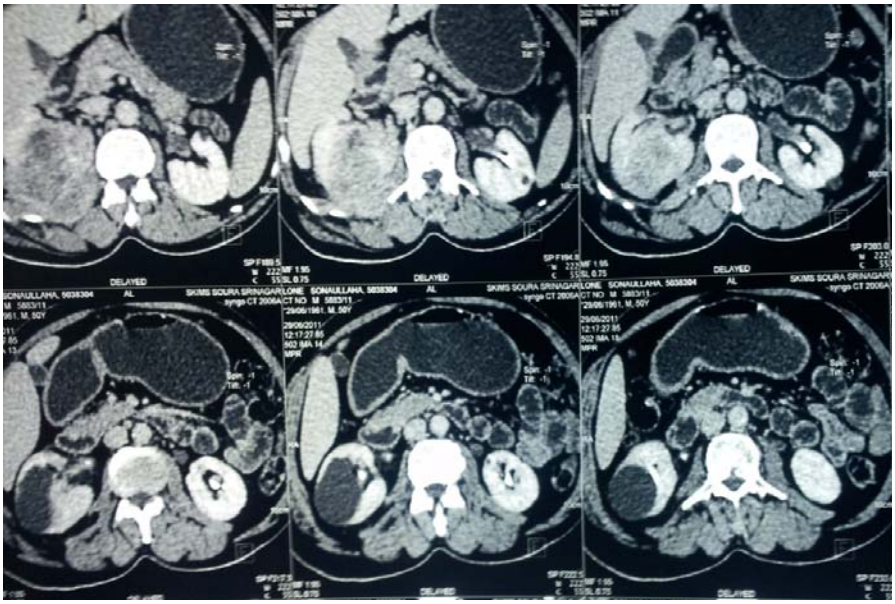


Figure 2: Intravenous pyelogram showed a right renal calculus in superior calyx with focal calcification and calycial diverticula.



(Figure 3). Continued.

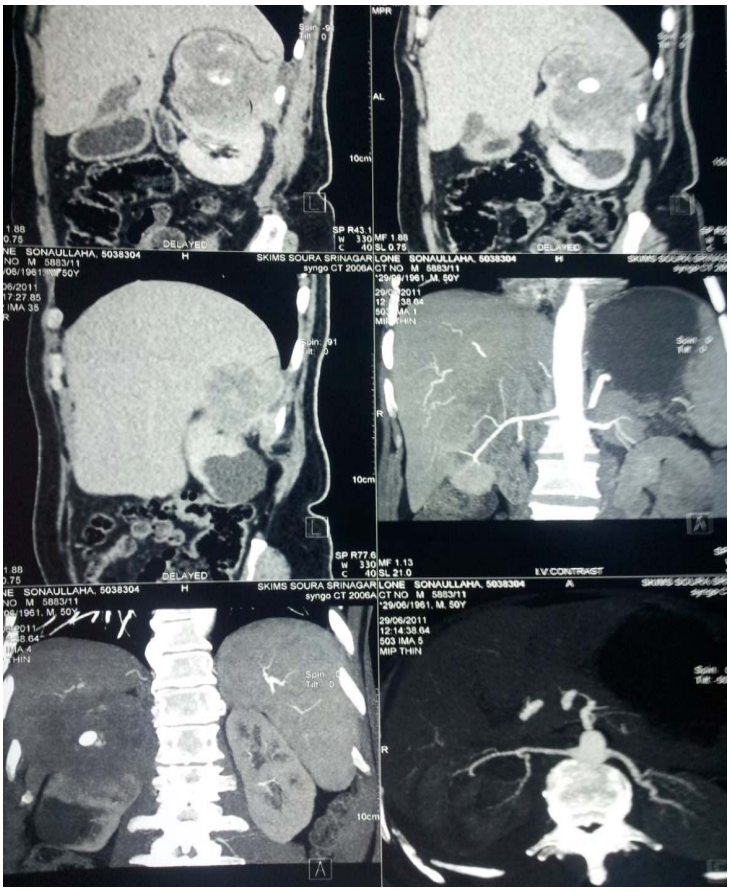


Figure 3: CECT of the abdomen showed a heterogenous enhancing mass in upper pole of right kidney with multiple speckled calcification and infiltration into the posterior abdominal wall.

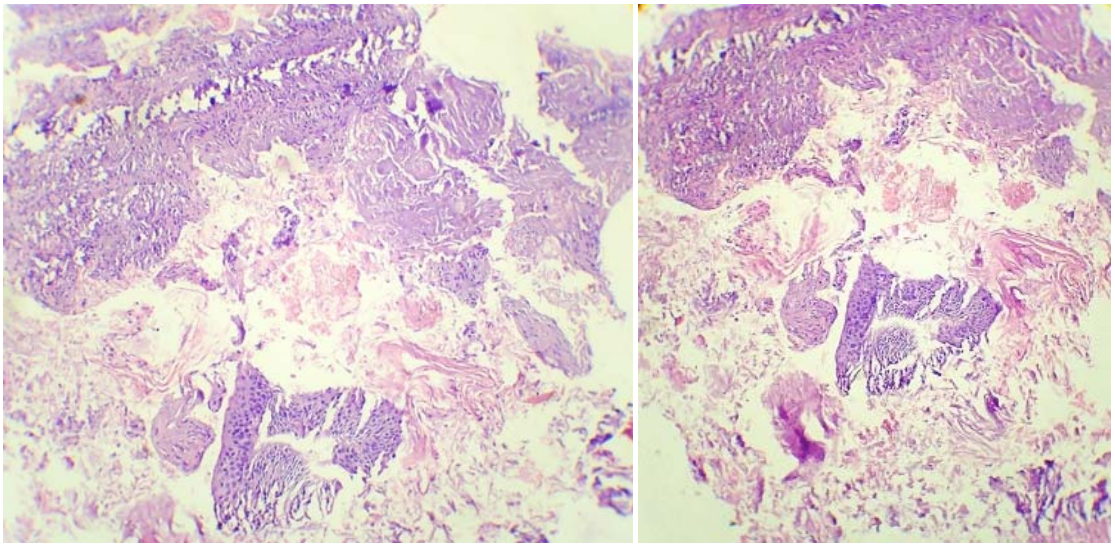


Figure 4: Histopathological examination revealed Squamous Cell Carcinoma- Keratinizing.

Squamous cell carcinoma of the renal collecting system is a rare malignancy with a poor prognosis and accounts for 0.5% of all renal tumours [8]. They are frequently associated with long standing renal calculi, chronic kidney infection, hydronephrosis, chronic analgesic abuse and squamous metaplasia [7]. Urinary calculi are accepted as a main carcinogenic risk factor for squamous cell carcinoma and a reported incidence of coexisting renal stones is in 100% cases [5, 6]. In present case renal squamous cell carcinoma

associated with renal calculi correlated with the data given in literature.Hypercalcemia, leukocytosis and thrombocytosis have been reported as a part of paraneoplastic syndromes in RSCC cases [9].

Although being non specific, a solid mass, hydronephrosis and calcifications are common radiologic findings which may explain why the diagnosis could be missed before the histopathological examination. According to localization, these tumours are classified as central and peripheral. Diagnosis of renal squamous cell carcinoma is difficult as charecteristic clinical features of renal cell carcinoma are absent. Imaging with CT and pre-op histopathology will help in the diagnosis. Current primary treatment of renal squamous cell carcinoma is nephrectomy. Chemotherapy or radiotherapy is indicated in metastatic disease [6]. A combination chemotherapy including cisplatin, methotrexate and bleomycin is used in metastatic disease [10]. Extensive review of the available medical literature on this rare malignancy revealed a poor prognosis [11, 12].

CONCLUSION

Primary renal squamous cell carcinoma is an aggressive tumour. As these tumours are strongly associated with renal stones, the patients with renal stones and non-functioning kidney should be carefully examined with newer imaging modalities for early detection of the tumour, and warrants aggressive treatment with surgery followed by adjuvant aggressive combination chemotherapy that may provide better results.

REFERENCES

[1] Murphy DM, Zincke H, Furlow WL. Primary grade I transitional cell carcinoma of the renal pelvis and ureter. J Urol 1980; 123: 629-31.

[2] Latham HS, Kay S. Malignant tumors of the renal pelvis. Surg Gynecol Obstet 1974; 138: 613-22.

[3] Utz DC, Mc Donalt JR. Squamous cell carcinoma of the kidney. J Urol 1957; 78: 540-52.

[4] Li MK, Cheung WL. Squamous cell carcinoma of the kindey. J Urol 1987; 138: 269-71.

[5] Blacher EJ, Johnson DE, Abdul-Karim FW, *et al*. Squamous cell carcinoma of renal pelvis. Urology 1985; 25: 124-6.

[6] Karabulut A, Emir L, Gonultas NI, *et al*. Squamous cell carcinoma located in the renal caliceal system: A case report and review of the literature. Turkish J Cancer 2002; 32(1): 20-4.

[7] Odabas O, Karakok M, Yilmaz Y, *et al*. Squamaous cell carcinoma of kidney. Eastren J Med 2000; 5(1): 35-6.

[8] Busby JE, Brown GA, Tamboli P, *et al*. Upper urinary tract tumors with non transitional histology: a single-center experience. Urology 2006; 67(3): 518-23.

[9] Er O, Coskun HS, Altinbas M, *et al*. Rapidly relapsing squamous cell carcinoma of the renal pelvis associated with paraneoplastic syndromes of leukocytosis, thrombocytosis and hypercalcemia. Urol Int 2001; 67(2): 175-7.

[10] Corral DA, Sella A, Pettaway CA, *et al*. combination chemotherapy for metastatic of locally advanced genitourinary squamous cell carcinoma: A phase II study of methotrexate, cisplatin and bleomycin. J Urol 1998; 160: 1770-4.

[11] Lee TY, Ko JF, Wan YL, *et al*. Renal squamous cell carcinoma: CT findings and clinical significance. Abdom Imaging 1998; 23: 203-8.

[12] Nativ O, Reiman HM, Lieber MM, *et al*. Treatment of primary squamous cell carcinoma of the upper urinary tract. Cancer 1991; 68: 2575-8.

Received on 24-03-2013 Accepted on 07-04-2013 Published on 01-07-2013

DOI: http://dx.doi.org/10.6000/1929-2279.2013.02.03.7