

Squamous cell carcinoma of the right renal pelvis in a 46-years-old with long history of right pyelolithiasis. A case report and review of literature

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Abstract

Squamous cell carcinoma of the kidney is a rare malignancy of the upper urothelium usually seen at advanced stage due to delay in diagnosis and or presentation. Mostly seen in patients with history of untreated chronic urolithiasis, chronic renal infection or analgesic abuse. A 46-years-old man who presented with right recurrent loin pain that radiates to the right groin of 10 years duration which worsened 2 weeks prior to presentation, he had history of recent haematuria, right loin pain, significant weight lost with associated history of untreated right renal calculi. General examination was not remarkable, ultrasound scan revealed a huge right renal mass with calculi. Intravenous urogram showed a non-functioning right kidney. Right radical nephrectomy was done, cut sur-

face showed replacement of the renal parenchyma with greyish white tumour with stones in some blind calyces. Histology revealed moderately differentiated squamous cell carcinoma of the right kidney. We report a case of moderately differentiated squamous cell carcinoma of the right kidney in a patient with a long history of untreated renal calculi. High index of suspicion for malignancy should be kept when seeing patients with long history of untreated renal calculi.

Introduction

Squamous cell carcinoma is a rare malignancy of the upper urothelium presenting more commonly in advanced stage,¹ with an incidence of 1.4% of all renal malignancies,² most patients have a history of long standing untreated renal calculi, chronic renal infection or analgesic abuse.³ Computed Tomography (CT) scan urography is investigation of choice for upper urinary tract malignancy, which will also aid in staging of the disease. Diagnosis is made by histology. Squamous cell carcinoma should be kept in mind when evaluating a renal mass with history of a renal calculi.⁴⁻⁶ We report a case of poorly differentiated squamous cell carcinoma of the right kidney in a 46-years-old with 10 years history of untreated right renal calculi.

Case Report

A 46-years-old man presenting with right recurrent loin pain radiating to the right groin for 10 years which worsened prior to presentation, he had history of right renal pelvic stone 10 years earlier which was diagnosed on Intravenous Urography (IVU) in our facility and was counselled for surgical removal but patient never showed up again till the onset of the presenting complains. At presentation, there was history of recent haematuria, recurrent low grade fever and aching right loin pain. General examination was not remarkable except for a marked right loin tenderness, and cachexia, ultrasound scan revealed a huge right renal cyst with multiple calculi, Intravenous urogram showed a non-functioning right kidney and an initial diagnosis of right renal pelvic calculi with non-functioning kidney in a patient with long standing renal pelvic stone was made and patient was planned for nephrectomy. At surgery, a huge renal mass with increase vascularity was noted; no demonstrable regional lymph node enlargement was seen. Right nephrectomy was done, the cut surface revealed a greyish white tumour infiltrating into the renal parenchyma but not beyond it (limited to the kidney), with stones in some blind calyces. Regional lymph could not be assessed intra operatively. Histology showed moderately differentiated squamous cell carcinoma of the right kidney (Figure 1). Intra operative staging of T2NxMx was made. All attempts at getting post-operative computed topographic

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scan (CT-Scan) for proper staging fail as patient could not afford a CT-scan, however chest X ray done shows features of metastatic lung diseases and abdominal ultrasound scan shows metastatic deposits on the liver and enlarged matted paraortic lymph nodes following which a staging of T4N1M1 was made. He had a single course of carboplatin and 5 fluorouracil. Patient developed recrudescence and was lost due to the cancer progression and acute respiratory failure two months following surgery.

Discussion and Review of literature

Primary neoplasm of the renal collecting system are uncommon, accounting only 4-5% of all urothelial tumors,⁷ cancers of the kidney account for only 2% of total human cancers.⁸ Squamous Cell Carcinoma (SCC) of the renal pelvis is a rare malignancy of the upper urinary tract. Of all the urothelial tumours, the transitional cell type is the most commonly diagnosed (85% to 95%), followed by squamous cell carcinoma (6% to 15%) and adenocarcinoma (7%).^{9,10} Among malignant renal tumours, squamous cell carcinoma are decidedly rare neoplasm and form only about 0.5-8%.^{11,12} Only few cases have been reported. Women are affected more frequently than men, predominant age group being 50-70 years.¹³ In general, these tumours are highly aggressive and at high stage when detected, hence they have a poor clinical course. The presence of characteristic haematuria and palpable loin mass helps in quick diagnosis, however, patient's late presentation and moderately differentiated grade of the carcinoma does not favour its prognosis. Chronic infection, phenacetin consumption, previous history of renal calculi surgery, radiotherapy and chronic renal pelvic stones are the commonly implicated risk factors for squamous carcinoma of the renal pelvis.³ Smoking or tobacco chewing was also observed in 60% of the patients as a known predisposing factor. Hypercalcemia, leukocytosis, and thrombocytosis have been reported as a part of paraneoplastic syndromes in renal squamous cell carcinoma cases.^{14,15} The incidence of co-existing renal stone was reported in a wide range, between 18%¹³ and 100%.¹² There are two entities when it comes to SCC of kidney, one being intraparenchymal SCC which is much rarer and pathognomonic

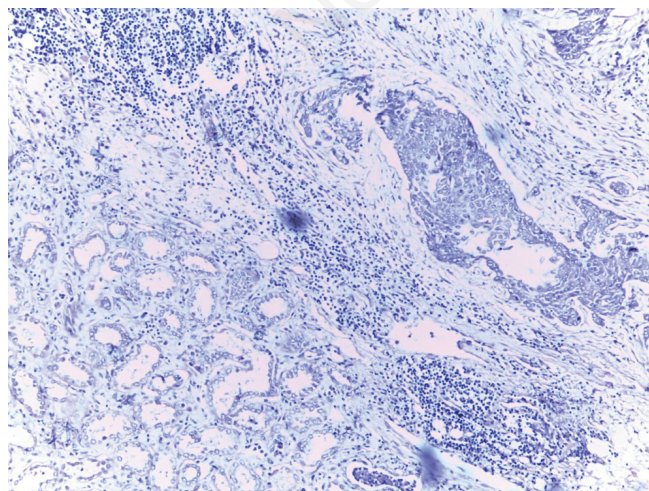


Figure 1. A slide showing malignant squamous cell infiltration of the right renal parenchyma.

sign of which is normal histopathological features of renal pelvis which was not the case with our patient. Second, being primary renal SCC of pelvis, which may or may not be associated with squamous metaplasia/dysplasia. Hence, our reported case is in primary renal SCC of the renal pelvis.

Lee *et al.* found that the specific feature in CT scan of SCC of renal pelvis was presence of enhancing extra luminal exophytic mass or in some cases, an intraluminal component.¹⁶ our patient did not have CT scan done, although it was requested, due to financial reasons. They further suggested that IVU should be carried out periodically, especially, in patients with long-standing stones. Because the filling defects, delay in appearance of pyelogram, or renal parenchymal thickening in IVU may indicate a renal tumour despite the absence of mass-effect and preservation of renal contour, warranting further studies.¹⁷

Review of literature suggested current primary treatment of SCC of the renal pelvis being nephrectomy.^{18,19,20} Adjuvant chemotherapy or radiotherapy are indicated in metastatic disease.²¹ Our case was T₂N₀M_x (intraoperative grading) and could not afford post-operative CT scan but both report of chest X ray and abdominal ultrasound scans shows features of distant metastasis with demonstrable lymph node enlargement on ultrasound scan with subsequent staging of an advanced disease.

Conclusions

Cases of SCC of the renal pelvis are often aggressive with poor prognosis, diagnosis are often made late with advance stage, hence high index of suspicion should be kept in cases of long standing pyelolithiasis and patients should be placed on follow-up visits with IVU check to ensure early diagnosis of the condition.

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