

Case Report

Primary squamous cell carcinoma of kidney: a case report

Sunil M. Lanjewar, Ritesh M. Bodade*, Atish N. Bansod, Apoorva Kulkarni

Department of Surgery, Indira Gandhi Govt. Medical College, Nagpur M.S., India

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***Correspondence:**

Dr. Ritesh M. Bodade,

E-mail: dr.ritesh.bodade@gmail.com

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ABSTRACT

Neoplasms of the kidney are most commonly adenocarcinomas. Squamous cell carcinoma of renal pelvis and ureter are very rare and account for 6-15% of all renal tumours. Very few such cases have been reported. Most are associated with calculus disease or hydronephrosis. Our case was a 44-year old female having pain & lump in right flank since six months. Contrast CT abdomen showed an 8.8x8.8x6.4 cm renal upper pole mass with well-defined rounded calcification invading directly into the liver. There was no calculus or hydronephrosis. Ultrasound guided tru-cut biopsy was inconclusive, showing only dysplastic cells. On exploration, the mass was found to be arising from postero-superior pole of right kidney, with direct invasion into the liver. A nephroureterectomy with wedge resection of liver was performed. Histopathology of the specimen showed well differentiated squamous cell carcinoma of renal pelvis extending into liver.

Keywords: Squamous, Carcinoma, Kidney

INTRODUCTION

Tumours arising from the kidney are mostly either adenocarcinoma from the renal parenchyma or transitional cell carcinoma from the renal pelvis. A squamous cell carcinoma arising from the kidney is a rare occurrence. Most of these tumours are associated with renal calculi or other chronic renal inflammatory conditions. Patients generally present late with the only complaints being pain and a lump in the right upper abdomen. A pre-operative diagnosis can be difficult to make as the CT scan shows appearance similar to renal cell carcinoma and a biopsy can often be inconclusive. The diagnosis is then made on histopathology of the specimen of nephroureterectomy post-operatively, as it happened in our case. Our case was very rare because the lesion was not associated with any renal calculus or disease and the tumour mass was found to be directly invading into the lower surface of liver which required a

wedge resection. Such a malignancy has a very poor prognosis even with post-operative radiotherapy.

CASE REPORT

A 44-year old lady presented to us with the complaints of pain in the right flank since around six months. The pain was of dull aching type, continuous in nature. There was no history of weight loss, loss of appetite, hematuria or any other urinary complaints. The patient also complained of a lump in the same region since six months. There was no history of any renal calculus disease or calculus surgery in the past.

Her general examination was normal. On per abdominal examination, a lump of 10x8cm was palpable in the right lumbar & hypochondriac regions. It was firm, moves with respiration and non-ballotable. The surface was

bosselated, with well-defined medial, lower and lateral borders. The upper border could not be palpated.

So with a clinical diagnosis of a renal lump, most probably renal cell carcinoma, the patient was investigated. All routine hematological investigations were normal. Ultrasound of abdomen showed a solid mass at the upper pole of right kidney abutting the liver segments VI & VII of liver show a hyperechoic lesion, likely to be metastasis. Contrast CT of abdomen (Figure 1 and 2) revealed an ill-defined solid mass with necrotic areas showing heterogeneously moderate enhancement, noted arising from renal pelvis and superior pole of right kidney measuring 8.8x8.8x6.4 cm. The mass shows well defined rounded calcification and has breached the perinephric fat to involve segment VI and VII of liver. Both renal veins and inferior vena cava were normal. USG guided tru-cut biopsy was inconclusive, showing only dysplastic cells. Rest of the metastatic work-up was normal.



Figure 1: CECT showing right renal mass with ring calcification and extension into liver.



Figure 2: CECT showing right renal mass with extension into liver.

So with a diagnosis of Renal Cell Carcinoma, a right nephroureterectomy (Figure 3 and 4) with wedge resection of liver was done. Histopathology (Figure 5) was suggestive of well differentiated squamous cell carcinoma of renal pelvis extending into upper pole of kidney and liver. Patient was then referred for radiotherapy.



Figure 3: Showing nephroureterectomy specimen cut open.

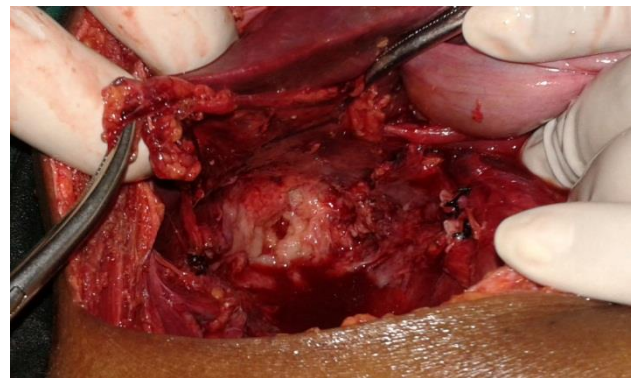


Figure 4: Showing involved liver bed before wedge resection.



Figure 5: Showing photomicrograph of Specimen histology.

DISCUSSION

Squamous cell carcinoma of renal pelvis and ureter are rare and account for 6-15% of all renal tumours.¹ Very few such cases have been reported. Most are associated with calculus disease or hydronephrosis. Other causes are history of previous renal calculus surgery, chronic analgesic abuse or radiotherapy. Li MK et al. reported incidence of co-existing renal stone in 100% of cases.² Chronic irritation and infection are believed to induce reactive changes in the urothelium and leads to neoplasia via metaplasia and leukoplakia. Staghorn calculi are most frequently associated with renal pelvis squamous cell carcinoma.³ Lee et al. in their study classified these tumors into two groups, according to localisation 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 squamous cell carcinoma presents with prominent renal parenchymal thickening and might invade the perirenal fat tissue before lymph node or distant metastasis could be identified.⁴

The patients may present for the first time with anorexia, weight loss and/or lethargy, particularly in advanced cases. The diagnosis is usually confirmed by histopathological examination of the surgical specimen. Late onset pain, solid mass with or without hydronephrosis and rarity of the tumor are possible culprits behind late diagnosis of this entity. Insidious onset of the disease and lack of any pathognomonic sign or symptom confounds the delay in diagnosis. Due to this delay in diagnosis, invasion of the renal parenchyma occurs in few patients. Unfortunately, majority of the patients have locally advanced or metastatic disease at the time of presentation with a poor prognosis and in these patients, nephrectomy with or without ureterectomy is recommended.^{1,2,5}

Squamous cell carcinoma of the renal parenchyma should be differentiated from similar lesion of the renal pelvis. The former is a much rarer entity. For it to be called a renal parenchymal SCC, the renal pelvis should be histologically normal. Stage by stage, they tend to have the same prognosis as urothelial cancers, although they tend to present at a more advanced stage.⁶

Primary SCC of the kidney should further be distinguished from metastatic SCC with the combination of clinical history, imaging studies, and histopathology. After ruling out the metastasis, for it to be stamped as a primary renal parenchymal SCC, an extremely rare

entity, most importantly the renal pelvis, should be histologically normal.^{7,8}

Our patient had a squamous cell carcinoma arising from the renal pelvis. There was no history of any renal calculus disease or calculus surgery in the past. Intraoperatively, the tumour was seen invading into the upper pole of kidney and the lower surface of liver directly. It is very rare to find squamous cell carcinoma of kidney without concomitant renal calculus or chronic pelvic irritation. The entire renal pelvis of the upper pole was replaced by the tumour, suggesting poor prognosis. Post-operatively, the patient was referred for radiotherapy. Patient expired after taking the first cycle of radiotherapy.

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