

AN ATYPICAL CASE OF RENAL MASS – A CASE STUDY

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Abstract

A forty eight year old woman with the clinical diagnosis of renal mass due to renal cell carcinoma was found to have renal tuberculosis. The clinical presentation and management are being discussed.

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Case summary:

A forty eight year old house wife admitted in the Department of Urology, BIRDEM Hospital on 4th may 2010 with the complaints of haematuria for a single episode one and half months back, pain in the right loin for the same period.

The patient developed a dragging pain in the right loin which was non-radiating and accompanied by passage of clotted blood in urine at first, then gross haematuria for the whole day. From the next day there was no haematuria. Patient went to her local doctor where she was advised for USG of whole abdomen which revealed a heterogeneous solid mass in right renal region. Then she was referred to urology OPD of BIRDEM for further management. Here we advised her for CT scan of abdomen which revealed isodense, well capsulated lesion in the mid and lower pole of right kidney without involvement of renal vein and IVC, suggestive of renal cell carcinoma.

She gave no history of significant weight loss, cough, or any rise of temperature. She is a known case of DM & HTN and she is on antihypertensive and oral hypoglycaemic agent.

On examination she was mildly anaemic otherwise normal. Her abdominal and other systemic examination revealed no abnormality.

The urine analysis revealed pus cells, protein, and no sugar, but urine culture yielded no bacterial growth. Serum electrolytes, urea, creatinine, and calcium were normal. Liver function tests were normal. Full blood count

revealed haemoglobin of 8.6g/dl, white cell count of $7.8 \times 10^3/\text{mm}^3$, and platelets of $2.4 \times 10^5/\text{mm}^3$ ESR was 45 mm in 1st hour. Chest X-Ray P/A view was normal. USG of whole abdomen showed heterogenous mass 9.3x10.3 cm in size in right renal region possibly renal cell carcinoma. Abdominal CT-scan showed large solid mass 10x11 cm in mid and lower pole of right kidney with possible peri-nephric extension, suggestive of renal cell carcinoma without definite evidence of involvement to right renal vein and IVC. (Figure 1). The patient was counseled and prepared for right radical nephrectomy.



Fig.-1: CT scan of abdomen showing right renal mass.

Operative findings:

There was a large mass found at the mid and lower pole of right kidney. The mass was adherent with the adjacent structures and to the posterior abdominal wall. No involvement of the renal vein or IVC was found. No metastasis was seen in the liver or peritoneum. No hilar or para-aortic LN was seen. (Fig.-2, 3).

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Fig 2 & 3 Resected kidney.

Her post operative period was uneventful but the histopathological report surprised us. Histopathology – specimen consists of a 16x12x11cm resected kidney with perirenal fatty tissue and 7.5cm long ureter. The kidney is opened up and shows a 14 cm grey brown tumorous lesion. It has invaded almost whole of the right kidney sparing a small part of upper pole. At the hilar region, part of renal artery and renal vein was found. Microscopic section of kidney showed a renal cell carcinoma. The anaplastic cells have centrally placed round to oval nucleus and moderate amount of cytoplasm. Some of the cell exhibit granular cytoplasm and some contain clear cytoplasm. The tumour cells are arranged in sheets, clusters and nests. The renal capsule and peri renal fatty tissue do not show invasion by the tumour. Section of the adjacent renal parenchyma revealed a focus of granulomatous inflammation. It presents small epithelioid cell granuloma with central foci of necrosis and few multinucleated giant cell along with lymphocytes. Sections of the resection margins of renal artery, renal vein and the ureter are free of tumour. The impression was right renal cell carcinoma with focal granulomatous inflammation in the renal parenchyma. (Figure 4, 5).

Then we discussed the matter with the patient and started anti TB drugs. We tried to find focus of primary tuberculosis but failed to reveal any. Then we discharged the patient on 10th POD with an advice for follow up after one month.

On 1st follow up she had no complaints. Her wound was found healthy; appetite was normal, body weight increased (from 45kg to 49kg). Chest X-Ray P/A view was normal. USG impression was status of right nephrectomy, otherwise normal. RFT and LFT were

normal. Bone scan was normal. We advised to continue Anti TB treatment for nine months and follow up after 3 months.

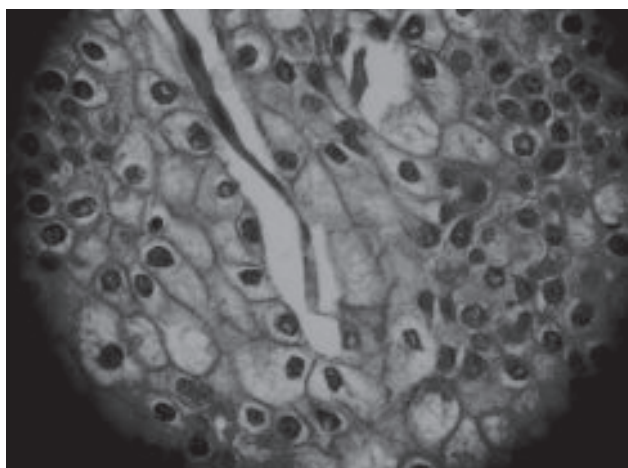


Fig 4: Renal cell carcinoma

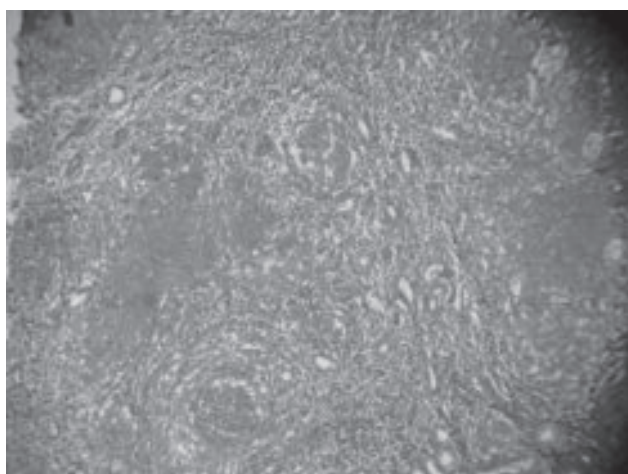


Fig 5: Renal tuberculosis

Discussion

The common renal malignancy in adults is of clear cell type, followed by papillary carcinoma and chromophobe cell carcinoma^{1, 2}. Primary neoplasms of the renal collecting system are rare, accounting for less than 5% of urothelial tumours in urinary system^{3, 4}. The transitional cell type is the most frequent (85%–95%), followed by squamous cell carcinoma (6%–15%) and adenocarcinoma (7%)⁵. Haematuria, the classical presenting complaint of renal cell carcinoma, is common in this entity as in this case. The incidence of co-existing stone was reported in a wide range of 18% to 100%¹. Our patient did not have urinary calculi. The current case shows the association with chronic pyelonephritic features without calculi. The renal malignancy was considered due to loin pain and presence of haematuria as the renal cell carcinoma classically presents as painless haematuria. Tomographic imaging reveals neoplastic lesion more specifically. In our case, the tumour was seen in the mid and lower pole of right kidney.

Renal TB is caused by microorganisms that are part of the mycobacteria complex (*M. tuberculosis*, *M. bovis*, *M. microti*, *M. africanum*) and can occur during primary infection or pulmonary reactivation up to 30 years later, which is generally considered reactivation of the infection. It is rarely present in patients <25 years of age.⁶⁻⁸ Its spread is usually hematologic as a metastasis from a primary site such as the lung, but infection may also occur by contiguity and lymphatic dissemination. There are reports describing the mode of transmission as sexual.^{9,10} Regardless of the mode of transmission, the effect is the formation of granulomatous lesions in the glomerulus, the majority of which resolve without resulting in kidney disease. However, granulomas may cause local damage and calcify, causing caseous parenchymal necrosis or invade the tubular lumen and thus enter the medullary interstitium. Advanced forms may cause calyceal distortion, ureteral stenosis, bladder fibrosis or progressive renal failure if the disease is bilateral (mostly occurs unilaterally). In rare cases it may be complicated by amyloidosis,¹¹ and there are reported cases of interstitial nephritis due to immune complex, but this is even more rare.¹² There are cases such as the one we presented here the diagnosis is made only by histopathological studies of a resected kidney¹³.

Conclusion

This patient presented with loin pain and haematuria without a mass and was found to have renal cell carcinoma with renal tuberculosis without detection of

any primary focus of tuberculosis. There was no documented evidence of relation between renal cell carcinoma and renal tuberculosis. As renal calyceal tumours could present with atypical features, a proper preoperative workup may help in better management.

Conflict of interest: None declared.

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