CASE REPORT

Metastatic renal cell carcinoma: A case report

Hajrah Hilal Ahmed, Rabia Ahmed, M. Jamaluddin

Received:
13th November 2017

Accepted:
13th May 2018

Abstract:
Renal cell carcinoma (RCC) is also known as Grawitz's tumor or Hypernephroma. It is an adenocarcinoma, which originates in renal cortex and is the most common type of kidney cancer in adults. Nephrectomy is the treatment of choice.

We present a case of a 50 year old patient. The present case study focuses on management of a 60 year old male patient with RCC. This 60 year old male who was salesman by profession, presented in outpatient department wtih history of loss of epitite, loss of weight and feeling of heaviness in the left flank. On examination patient looks wasted. His vitals are within normal limits. Abdominal examination revealed lump of the size of 10x9.5 cms in the right lumbar region. Abdominal ultrasound and CT adbomin were suggestive of renal malignancy. Patient underwent nephrectomy. Histopathology was consistent renal cell carcinoma.

Keywords: hypernephroma, adenocarcinoma, redical nephrectomy, transitional-cell carcinoma

Introduction:
Renal cell carcinoma (RCC), which arises from renal tubular epithelium, is the most common cause of renal malignancy in adults,[1] Renal cell carcinoma accounts for approximately 3% of adult malignancy and 90% to 95% of neoplasms arising from the kidney.[2] It is the seventh most common cancer in men and the ninth most common in women.[3] And the median age at diagnosis is approximately 60 years.[4] Other histologic types includes Transitional-cell carcinoma of renal pelvis in adults and Wilms tumor in children.[5] The classic presentation of renal-cell carcinoma includes the triad of flank pain, hematuria and a palpable abdominal mass.[6] Surgical resection (including cytoreduction nephrectomy and/or metastasectomy) remains the most viable treatment option in patients regardless of the stage of disease at presentation .[6-7]

Case Report:
A 60-year old male patient with no-known comorbids, salesman by profession presented with complaint of lower back pain on left side of abdomen for one and a half years that started gradually, that was vague dull ache in character initially, then became continuous and dragging in character and radiates to lower left anterior side of abdomen. He complained of unexplained fatigue for 1 year. He takes proper 7-hrs of sleep daily at night but still felt weakness, generalized body pain and tiredness during day time that was hindering his daily routine work and let him to quit job after 8 months. He felt a lump in the left side of his abdomen 5 months back which was painless gradually increasing in size and later it occupied left lower portion of abdomen. But he didn't consult or take any medicine for it as it was not bothering him. He also complained of fever & loss of appetite for 3 months, fever was high-grade, intermittent, not associated with rigors and chills initially and relieved by taking anti-pyretic but it was persistent, low-grade since 1.6 months. He lost his appetite and didn't feel hunger all day and felt fullness in his stomach after taking small amount of meal. He

Abbasi Shaheed Hospital and Karachi Medical & Dental College, Karachi
HH Ahmed
R Ahmed
M Jamaluddin

Correspondence:
Dr. Hajrah Hilal Ahmed, Post-graduate trainee (FCPS-II Surgery), Abbasi Shaheed Hospital, Karachi
Cell: + 92-324-8233091
Email: hajrahilal@gmail.com

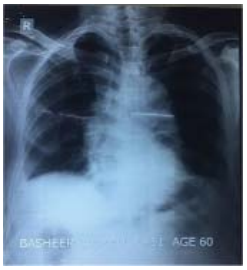

Figure 1: The x-ray chest of the patient with metastatic renal cell carcinoma

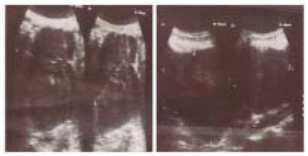

Figure 2: ultrasound findings of renal cell carcinoma

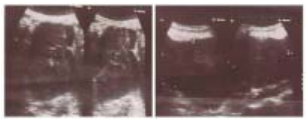

Figure 3: ultrasound of the same patient of renal cell carcinoma

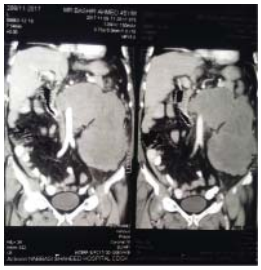

Figure 4: CT scan showing huge renal mass

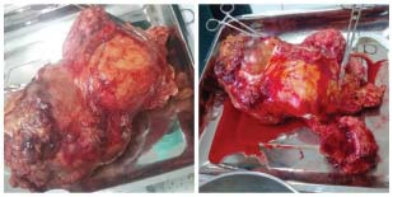

Figure 5: The gross specimen of renal cell carcinoma

did not have any family history of any tumor and belongs to a low socio-economic status.

On General physical examination; an old man, ill-looking, 5.7 ft tall, 80kg in weight, alert, concious, well oriented to time, place and person, lying comfortably in bed with pulse - 86bpm, B.P – 130/90 mmHg, temp.- 100^0 F and R/R – 21 breaths/min. Dehydrated, dry and flaky skin, and cracking at corner of lips. On Abdominal examination; Abdomen was soft, non-tender, there was a mass palpated in left lumbar region anteriorly extending to left iliac fossa and posteriorly extending to lumbar vertebra L1. Mass was approx. 20x7cm in size, hard, fixed, non-tender, with ill-defined borders and irregular surface. Overlying skin was normal in appearance and mobile over it. Gut sounds were audible. During auscultation of chest there was bilateral equal air entry with no added sounds and S1 & S2 were audible of normal intensity.

His laboratory investigations suggest: Hb: 10.6gm/dl. His S.Calcium: 10.5mg/dL, S. Phosphate: 2.6mg/dL, Albumin: 3.8g/dL and Random blood sugar: 178mg/dL. Urine detail report showed no malignanent cell.

His ultrasound whole abdomen shows Liver: size is 17.5cm. Enlarged left lobe showing multiple hypoechoic areas and a mass of 11.9x9.6cm in left lobe. Huge well defined solid single mass seen in left lumbar region sized, 9.9x9.3cm.

CT Scan Abdomen with contrast shows soft tissue density lobulated enhancing mass measuring about 23.6x16.9x13.7cm seen arising from lower pole of left kidney. Mass is exophytic, inferiorly extending up to level of S1, superiorly extending up to level of upper border of L1, displacing superior mesenteric artery upward and forward. It is also abutting inferior border of spleen, bowel loops and portal vein superiorly with intact fat plane. Laterally abutting left abdominal wall. Medially crossing midline encasing left renal vessels and abdominal aorta, displacing IVC on to the right side.

Anteriorly abutting left psoas muscle. Mass is compressing the renal pelvis resulting in hydronephrosis in upper pole calyx of left kidney. Single perilesional fat stranding noted. Thickening of left gerota's fascia and zucker land fascia noted. Multiple sub centimeters to centimeters regional lymphnodes seen. These findings are suggestive of neoplastic lesion.

On basis of history, clinical examination and investigations we made the provisional diagnosis of renal tumor of left kidney. We classified this tumor on basis of TNM staging as T4 N2 M0. And planned for surgical excision of mass. Peroperatively left sided lobulated, irregular, hard mass of approximately 25x14cm in size was excised.

Post-operatively patient was shifted to ICU and he made a smooth recoverfy and discharge home at 8^{th} post-operative day.

Histo-pathology report shows poorly differen-

tiated renal cell carcinoma, tumor necrosis was present, microscopically tumor extends involving the renal sinus as well as the perinephric fat and also present at Gerota's fascia. Tumor is present at the serosal aspect of small intestine with focal infiltration into muscularis propria. Pathological TNM staging: T4N2M0 (Stage IV).

Discussion:

The most common kidney cancer is renal cell carcinoma, which arises from renal parenchyma.[9] It is second leading cause of death in urological tumor's patients.[8] The incidence and mortality rate has increased over the past two decades by 2% per year.[8,9]

According to previously done researches RCC is seventh most commonly affecting cancer in men and ninth most commonly affecting cancer in women, so men are most likely to be affected.[3] The median age of presentation is 60 years[4] and so was the age of our patient at presentation.

The most commonly occurring histological subtypes of renal cell carcinoma are (i) clear cell renal cell carcinoma 70-80%,[8] (ii)papillary, (iii) chromophobe, (iv)collecting duct/ medullary, and (v) sarcomatoid.[12]

The most common risk factors are cigarette smoking, obesity and end-stage renal disease. And less common factors, dialysis, hypertension, chronic abuse of NSAIDS. Some hereditary conditions are also associated with increased incidence of renal cell carcinoma like mutation in von-hippel-lindau gene.[11]

The clinical presentation of RCC is a classical triad of dull flank pain, abdominal mass and hematuria.[6] And other features of this disease are persistent pyrexia, anorexia, hypertension, anemia, malaise, weight loss, enlargement of testes on left side, swelling of ankles and features of paraneoplastic syndrome. And likewise our patient presented with low back pain on left side of the body, unexplained weight loss, a lump in abdomen on left side of body, fever, fatigue and loss of appetite.

The useful investigations for RCC are Complete blood count, electrolytes. Renal profile, urinalysis, liver function tests, serum calcium, ultrasonography, CT scan (plain and contrast-enhanced), intravenous pyelogram, renal angiography, magnetic resonance imaging, chest x-ray, bone scan and renal biopsy. Furthermore, no diagnostic biomarker and therapeutic approaches have yet been discovered for this disease.[8,11] Despite the widespread use of modern techniques for imaging, approximately 30% of RCC patients continue to present with metastasis.[13]

Treatment options are surgical resection depending on TNM staging of RCC i.e. partial nephrectomy for T1 and T2 lesions and radical nephrectomy for T3 and T4 lesions.

Other treatment modalities are molecular targeted therapy (such as tyrosine kinase inhibitors, vascular endothelial growth factor inhibitors), immunotherapy (IL-2 & interferons alpha) and radiotherapy (ablative dose is ≥ 8-10 Gy), but RCC is resistant to chemotherapy or radiotherapy and has limited response to immunotherapy.[13]

As seen in previously done researches, prognosis for patients with metastatic RCC has been poor, with a 5-year of survival rate in <10%.[13] In our case, the patient presented with metastasized RCC and survived for 4 months after his surgical resection of renal mass.

Conclusion:

Renal Cell Carcinoma is the most common malignancy of kidney. It usually presents when it has already metastasized. Therefore it has very poor prognosis. Surgical resection is the treatment of choice. There is no role of other treatment modalities.

Conflict of interest: None

Funding source: None

Role and contribution of authors:

Dr. Hajrah Hilal Ahmed, collected the referenc-

es, and did the initial writeup.

Dr. Rabia Ahmed, helped in collecting the references and also helped in introduction writing.

Prof. Dr. M. Jamaluddin, critically review the article and made the final changes.

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