



ORIGINAL RESEARCH PAPER

Urology

STAGE 3 RENAL CELL CARCINOMA IN A 64 YEAR OLD MALE : A CASE REPORT

KEY WORDS: Renal cell carcinoma , Hematuria , Clear cell RCC , IVC

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ABSTRACT
 Renal cell carcinoma is the most common solid neoplasm of kidney. It accounts for around 90% of all primary renal neoplasm. It arises in the proximal convoluted tubule of renal cortex. The exact cause is unknown but there are several risk factors. Mostly patients are asymptomatic, diagnosed incidentally on imaging, but some patients may present with hematuria , weight loss and palpable flank mass. Diagnosis of this disease require imaging techniques such as abdominal USG and CT scan. Treatment and prognosis of RCC depends on its pathological staging. Important factors are size of tumor and its extension to either Gerota's fascia and IVC. Treatment for this disease consist of partial or total nephrectomy and systemic therapy. This is a case of 64 year old male who diagnosed with Renal cell carcinoma extending into IVC below diaphragm and managed with Radical nephrectomy with IVC exploration.

INTRODUCTION
 Renal cell carcinoma is the most common malignant tumor of kidney. It accounts for 90% of all kidney cancers [1]. Other less common renal malignancies are transitional cell carcinoma , renal sarcoma and wilms tumor. Men are diagnosed with renal cell carcinoma at almost twice the rate of women, and there is a greater prevalence in black men [2]. Renal cell carcinoma is prevalent in elderly population , most cases are diagnosed between 60 and 70 years of age [1,3]. Renal cell carcinoma starts in renal tubular epithelial cells [4]. There are several subtypes of RCC, Clear cell RCC (ccRCC) makes up about 75% of RCC with the other subtypes papillary and chromophobe making up 15% and 5%, respectively [4]. The strongest risk factors of RCC are age and gender [5]. Other potential risk factors include location, ethnicity [6], history of smoking [7], history of using tobacco products [8], hypertension (HTN) [9], and obesity [10]. Renal cell carcinoma is associated with multiple hereditary syndromes such as von-Hippel-Lindau syndrome , Birt-Hogg-Dube syndrome and Tuberous sclerosis syndrome. The common organs to which metastasis from RCC occurs are the lungs, regional lymph nodes, bone, liver, adrenal glands, contralateral kidney, and brain [4].

More than 50% of patients with renal cell carcinoma are asymptomatic and diagnosed incidentally during thoracoabdominal imaging ordered for unrelated issues [11,12]. The history and physical examination triad of gross hematuria, flank pain, and palpable abdominal mass is now an uncommon presentation, and is associated with advanced disease [12-14]. Diagnosis relies on imaging such as ultrasound and Computed tomography of abdomen and pelvis. Treatment options include active surveillance , Partial nephrectomy , Radical nephrectomy and systemic therapy.

Case Report :
 A 64 year old male presented with the complain of intermittent hematuria, dysuria, persistent right lumbar pain and unintentional weight loss over last 3 months. Patient gave no history of recent trauma. On initial examination he was afebrile and hemodynamically stable. General examination revealed pallor and felt a mass in right flank with normal bowel sounds on abdominal examination. Routine investigations done along with USG(A+P) s/o renal cell carcinoma extending into IVC. CT(A+P) done to see the extent of tumor . the tumor was involving mid pole of right kidney extending into right renal vein an IVC below diaphragm (figure 1). Patient underwent Right Radical Nephrectomy with IVC exploration.

Intraop: Reverse L incision taken. Hepatic flexure and ascending colon mobilized, liver mobilised to expose IVC. Renal vessels identified (figure 2). Right renal artery identified and tied from interaortocaval window. Left renal vein clamped, IVC proximal and distal to extent of tumor clamped. Longitudinal incision taken over IVC . tumor was adherent to IVC wall. IVC partially transected longitudinally almost 6 cm . Specimen removed : right kidney with right renal vein and part of IVC wall. IVC reconstruction done using PTFE graft (figure 3). Clamps removed and flow in IVC noted. 1 drain placed and closure done.



Figure 1 : CT scan image of tumor

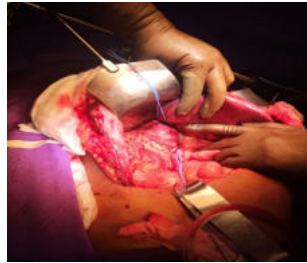


Figure 2 : Intraop image showing renal tumor

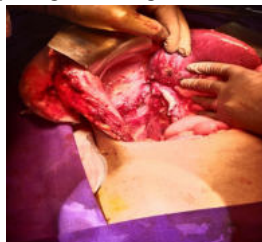


Figure 3 : Image showing IVC and PTFE graft

Patient started on inj clexane on Post op day 2. Patient mobilised and started on diet on post op day 4. Post op day 6 drain removed. Post op day 7 pt. got discharged on blood thinners with follow up in opd after one week for suture removal.

Histopath report : Tumour size 14.6x7x7.5cm, clear cell renal cell carcinoma histologic grade G2, tumor extends to perinephric tissue, renal sinus, major vein. Gerota's fascia and adrenal gland are free. TNM : pT3aPNXMX

DISCUSSION :

Renal cell carcinoma , derived from renal tubular epithelial cells, makes up the majority of kidney cancers [4]. Most cases are diagnosed incidentally in elderly. More than 50% patients are asymptomatic and diagnosed incidentally on abdomen imaging. Advanced disease may present with triad of hematuria , flank pain and palpable abdominal mass. Renal cell carcinoma is a slow growing tumor with increased rate of metastasis if size increases. The relationship between tumor size and prognosis in patients with renal cell carcinoma is also confirmed by the tumor node metastasis staging system, with the 5-year survival rate decreasing from approximately 80-100% in T1 cases to approximately 50-80% in T2 cases[15]. Radiological imaging play significant role in diagnosis and treatment options rely on tumor staging. Treatment options are surveillance, Nephrectomy and systemic therapy. This is a case report of a patient who presented with intermittent hematuria , dysuria and right flank pain. Computed tomography scan of abdomen and pelvis suggested Renal cell carcinoma with thrombus extending into IVC below diaphragm. He was managed with transperitoneal nephrectomy with IVC exploration and PTFE graft.

CONCLUSION :

Incidences of renal cell carcinoma increased in recent years due to best imaging techniques available like computed tomography. Early RCC mostly diagnosed incidentally, while patients are asymptomatic and can be managed with less complications. However extension of tumor into major vein present a complex scenario. Management of these patients needs a multidisciplinary approach of Urologist , Cardiac surgeon , Hepatobiliary surgeon , Vascular surgeon. These patients carry high mortality rate due to embolization of thrombus into heart. Timely intervention, close monitoring are needed to improve outcome and long term survival of patients undergoing these complex surgical interventions.

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