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Case Report

Gigantic kidney tumour presenting with weight gain

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ABSTRACT

A 61 years obese gentleman presented early with gain of weight and lump in the left side of abdomen for 15 days. On contrast enhanced computed tomography (CECT) of abdomen, a giant renal mass arising from left kidney. Patient underwent open nephrectomy, surgically removed en bloc of 12.5 kg weight largest renal mass. Histopathology showed papillary renal cell carcinoma. The postoperative period was uneventful.

Keywords: Giant renal cell carcinoma, Urological cancer, Largest papillary renal cell carcinoma

INTRODUCTION

Renal cell carcinomas account for approximately 80-85% of primary renal tumors and are the most common form of malignant renal tumor.[1] Renal tumours are known to grow to huge sizes because of their ability to create new vessels to support their growth and their propensity to produce erythropoietin.[2] It usually presents late, as most of the times it is detected by ultrasound. Largest papillary type of renal cell carcinoma reported in the literature is 5.44 kg with diameter of 20 cm.[3] Herein, we report a large papillary renal cell carcinoma with diameter of >22 cm with 12.5 kg weight.

CASE REPORT

A 61-year-old obese gentleman, weighing 120 kg and having a Body Mass Index of 42.1 kg/m^2, presented to the outpatient department with the complaints of rapid gain of weight and a lump in the left side of abdomen for 15 days. The patient was hypertensive and diabetic and had been on regular oral medications for the past 6 years. Abdominal examination revealed a bimanually palpable lump in the left flank. The haematological and biochemistry investigations were within normal range. The patient was not anaemic. Contrast enhanced computed tomography (CECT) scan of the abdomen reported a large well marginated lesion, predominantly hypodense with heterogeneously hyperdense areas within, originating from the left kidney. The lesion measured 25×27×22 cm and the fat planes were maintained. The renal vein did not show any invasion on the scan (Figure 1). A plain chest radiograph revealed no metastatic lesions. Furthermore, there was no evidence of any local or distant metastasis.

With a provisional diagnosis of left renal cell carcinoma, the patient was planned for a radical left open nephrectomy. The tumour was approached via a right subcostal skin incision; which was deepened to enter the abdominal cavity. Intraoperatively, a gigantic mass originating from the left kidney was found, with almost imperceptible normal renal parenchyma. It was limited to the Gerota's fascia with no major vessel invasion and minimal adhesions. The renal vessels were identified and skeletonized after lateral traction on the tumour followed by their ligation and division. The mass was removed along with the left kidney en bloc. The excised specimen weighed 12.45 kg (Figure 2a and b). The surgical procedure took a total duration of 150 minutes with an

estimated blood loss of 600 ml. The histopathological examination of the specimen reported pT2b Nx, grade 2 papillary renal cell carcinoma showing 98% tumour necrosis and no lymphovascular invasion (Figure 2c). The margins of the ureter, renal artery and vein were reported to be free of tumour. Post-operative period was uneventful and there were no complications. Drain output was nil on post-operative day (POD) 2 and was removed on POD 3. Patient was discharged on POD 5. Sutures were removed at the follow up visit after 14 days and there was no wound gaping. An ultrasonography of the abdomen after 3 months of the procedure was suggestive of no recurrence.

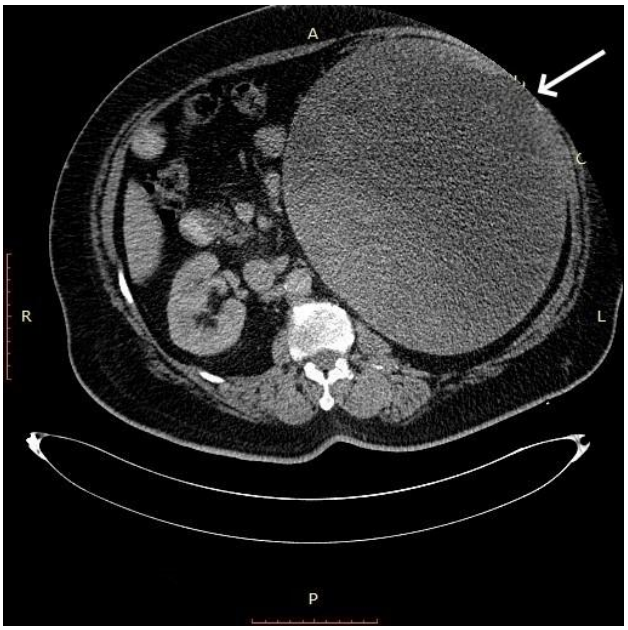

Figure 1: CECT abdomen axial section showing a well demarcated mass originating from the left kidney measuring 27×25×22 cm.

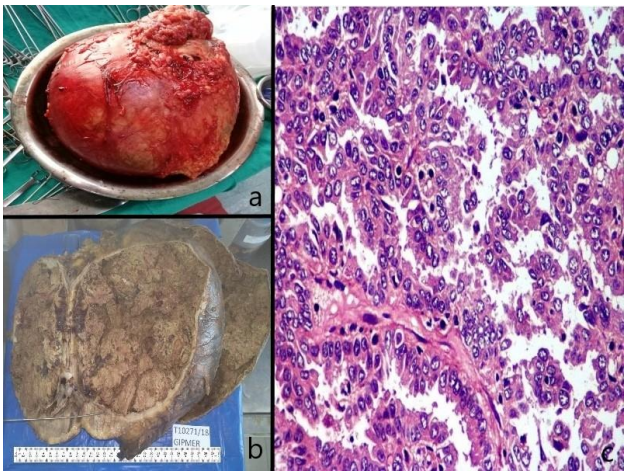

Figure 2: (a) Left radical nephrectomy specimen immediately after removal; (b) gross specimen with measurements (27×24×22 cm) just prior to tissue fixation; (c) photomicrograph (H&E 40 x) showing papillary renal cell carcinoma.

DISCUSSION

Several cases of giant renal cell carcinomas have been reported in the literature. Although there is no clearly defined size limit beyond which a tumour is called as "giant"; any tumour measuring more than 20 cm was described as giant.[4] Surgical exploration and removal of such giant tumours requires meticulous surgical skills by the operating surgeon. The challenges include gaining access to the renal hilum, minimizing blood loss and performing an R0 resection. An added challenge in our case was morbid obesity, which further made the procedure more laborious. A report describes the challenges encountered by the operating surgeons during the painstaking removal of a 3.63 kg left sided renal tumour. The tumour had pushed the left hemi-diaphragm and heart upwards and had very large renal vessels with significant neovascularization. Combined efforts of the urologist and vascular surgeon were required to deliver the tumour out through a thoraco-abdominal incision.[2] A huge left sided chromophobe renal cell carcinoma of size 35×18×19 cm weighing 11.5 kg (the heaviest tumour reported at that time) was successfully removed en bloc in a 55 year old man.[5] A patient having a renal tumour may present with haematuria, loin pain, flank mass or no symptoms at all.[6] However, a patient may just present with weight loss and haematuria.[1] On the contrary, the patient described herein presented with weight gain. To our knowledge, this is the heaviest renal tumour that has been removed from a patient.

CONCLUSION

Patients with renal tumours may just present with sudden gain in weight and an abdominal lump. Renal cell carcinoma can grow and reach up to a very large size and may even weigh more than 12 kg. Adequate operating field exposure via a generous skin incision, meticulous adhesiolysis, safely securing the renal hilar vessels and help of a vascular surgeon, wherever required, aid in successful surgical removal of such large renal tumours.

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