Rare Coexistence Of Benign Renal Oncocytoma And Renal Cell Carcinoma

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ABSTRACT

The coexistence of two tumors in a single person is not common. Finding two tumors in a single organ is rare. We are reporting a 65 years old male who presented with a long history of left loin pain. Clinical examination was unremarkable apart from hypertension. The histopathology of intra-abdominal mass seen on exploration of abdomen revealed oncocytoma and renal cell carcinoma.

Key words: contralateral, nephrectomy, multifocality, hematuria, perinephric.

Case Report

History:

A 65 years old barber male, presented with chronic left loin pain for the last 2 years, which was dull aching, not radiating and without associated urinary symptoms. There was no fever, bone ache or other systemic symptoms. He has no previous medical history.

General examination revealed healthy looking patient, not pale, jaundice or febrile. His pulse rate was 88 beats/m. BP 200/110 mmHg. Cardiovascular and Chest examination revealed no abnormalities. Abdomen was soft, not distended, no palpable masses apart from slight fullness in the left renal triangle, and normal per rectum examination.

Investigations:

Complete blood count, urine analysis, blood urea, serum creatinine, sodium and potassium were normal. KUB film of the abdomen showed mildly increased left renal shadow at the lower pole. Ultrasound abdomen and pelvis revealed left renal solid mass. Contrast enhanced CT-Scan abdomen showed left renal solid mass with no vascular or lymphatic invasion and no adjacent organ involvement

[Fig1]. IVU showed distorted left lower calyceal system, with a normal left renal pelvis. Isotope renal scintigraphy demonstrated poor functioning left kidney and well functioning right one.

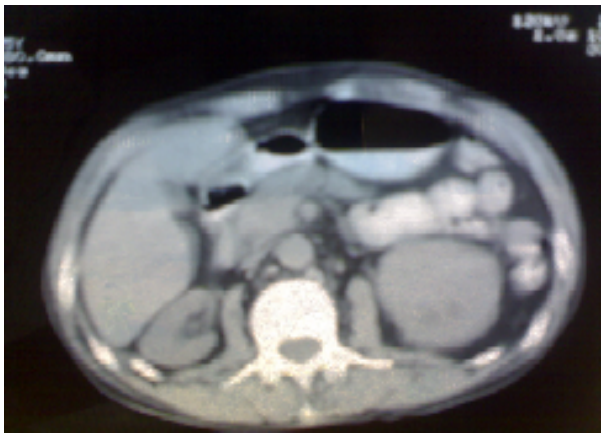

Fig.1 CT-Scan showing lower pole left renal mass.

Diagnosis and Management:

Diagnosis of left renal mass was made. His elevated blood pressure was controlled conjointly with medical department following oral amilodepine once per day. Following informed consent patient was prepared for surgery.

Operative Findings and procedure: Under well monitored general anesthesia via endo-tracheal tube, the abdominal cavity was

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approached through left transverse subcostal incision with good haemostasis using unipolar diathermy.
The spleen showed multiple small nodules covered with whitish hard material and easily bleed on touch. Splenectomy was done on the conventional way unevetfully[Fig2&3].

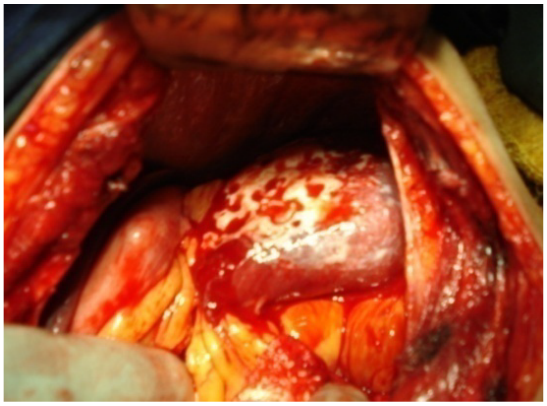

Fig.2. The pathological spleen.

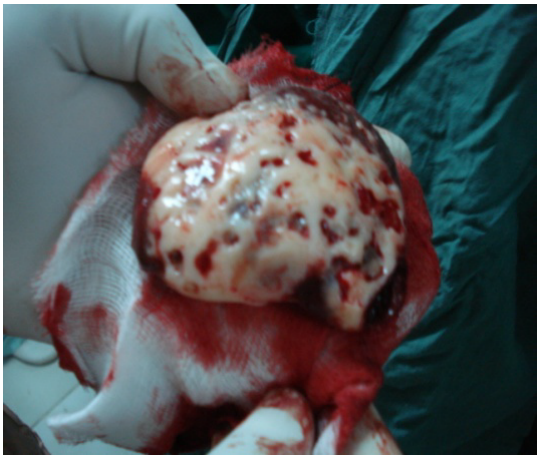

Fig 3. The spleen.

The peritoneal fluid was clear, there was no evidence of hepatic, lymphatic or peritoneal involvement.
Then left renal artery and vein were identified and ligated in continuity before mobilization of the tumor, followed by removal of the left kidney [Fig 4] with its perinephric fat and Girota fascia, but left suprarenal gland was not removed.
He was discharged on the 6th postoperative day and the stitches were removed on the 10th postoperative day.

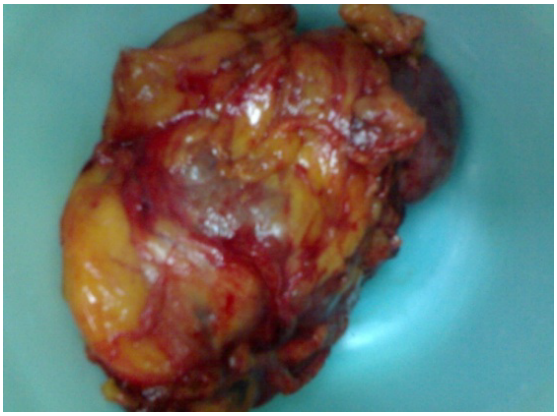

Fig 4. The left kidney.

Histopathological Report:
The renal mass composed of two tumors, the major tumor is an oncocytoma. This was based on the gross finding of a scar and the brown tumor with no necrosis or hemorrhage. The small tumor was a renal cell carcinoma. This was based on the alveolar arrangement, lack of granular cytoplasm and the presence of clear cells. There was no vascular, capsular or lymphatic invasion. The carcinoma might have been embedded in the oncocytoma. This may explain the long history in this patient; presumably the benign oncocytoma had preceded the renal cell carcinoma.
The spleen measured 9 cm in length and showed sugar icing on the capsule indicative of a previous perisplenitis. This area showing fibrosis was the capsule. The splenic parenchyma was normal.

Discussion:
Our patient had presented with left flank pain and hypertension. The histopathology oh his abdominal mass confirmed the coexistence of oncocytoma and renal cell carcinoma. Most common presenting symptoms of renal cell carcinoma are hematuria (40%), flank pain (40%) and palpable mass in the flank or abdomen (25%). Other clinical presentation range from weight loss (33%), fever (20%), hypertension (20%), hypercalcaemia (5%), night sweats, malaise and left sided varicocele (2%). Ten per cent of the patients present with the classic triad of flank pain, hematuria, and flank mass which is uncommon and it is indicative of advanced disease. Asymptomatic group account for 25-30% of patients, and

their renal cell carcinomas are found incidentally. Renal cell carcinoma may remain clinically hidden for most of its course[1]. Finding two tumors at the same site – as in our patient- is rare. However, multiple ones may coexist at different sites. Multifocality of renal oncocytoma and its coexistence with renal cell carcinoma was reviewed earlier. Oncocytoma was found to be unilateral in 95%, bilateral in 5%. Coexistence of renal cell carcinoma and oncocytoma were found in 14(10%) of patients, with overall multifocality, bilateralism and metachronous reaching 4 to 6%[2].

The occurrence of contralateral metacronous renal oncocytoma in 52 years old man after 10 years following nephrectomy for renal cell carcinoma, was reported before. The contralateral oncocytoma was asymptomatic and discovered during routine follow up. This long history is similar to our patient who presented with a 2 years history of left loin pain. Presumably the benign oncocytoma had preceded the renal cell carcinoma[3].

Siemer et al, reported 3.5% incidence of bilateral renal cell carcinoma in Germany. They found 66 patients with bilateral cell carcinoma. Synchronous tumors were 29 and 37 were asynchronous tumors. Clear renal cell carcinoma ranking number one, representing 70%, while chromophil renal cell carcinoma representing 36%[4].

A similar to our reported case is a 45 year old female, seen elsewhere. She presented with left renal mass, her sonographic, CT scan and renal angiographic features showed classical spoke-wheel appearance, and was treated by left radical nephrectomy. The histopathological diagnosis was oncocytoma in the upper pole and renal cell carcinoma in the lower pole of the same kidney. While our case showed renal cell carcinoma embedded in the oncocytoma on the same lower pole[5].

Lich MR described coexistence of oncocytoma and renal adenoma; both of them are difficult to differentiate from renal cell carcinoma[6]. In a report one rare case of renal cell carcinoma and contralateral metacronous oncocytoma in a 52-year-old male who had right radical nephrectomy for renal cell carcinoma was described. Ten-year follow-up revealed multiple lesions in the left kidney. Partial nephrectomy was performed, and the pathological study showed three oncocytomas[3].

The incidence of renal cell carcinoma being 3% of adult malignancies, accounts for approximately 90-95% of neoplasms arising from the kidney, the most common age groups affected are those in the sixth to eighth decades of life, with male-to-female ratio 2:1. Our patient is 65 years old and is a male. However, more recent data suggest that this sex gap is narrowing [7, 8]. Lack of early warning signs, diverse clinical presentations, resistance to radiation and chemotherapy, and infrequent responses to immunotherapy agents such as interferon alpha and interleukin (IL)-2 are the characteristic features of renal cell carcinoma[7]. In patients failing immunotherapy there are new agents of anti-angiogenic effect, which act through targeting multiple receptor kinases, such as sorafenib and sunitinib[7]. In the past, these tumors were believed to be derived from the adrenal gland; therefore, the term hypernephroma was used often. The proximal renal tubular epithelium is the tissue of origin for renal cell carcinoma. It occurs in a sporadic (nonhereditary) and a hereditary form, which are associated with structural alterations of the short arm of chromosome 3 (3p) in both of them. There are 4 hereditary syndromes which are associated with renal cell carcinoma: (1) von Hippel-Lindau (VHL) syndrome, (2) hereditary papillary renal carcinoma (HPRC), (3) familial renal oncocytoma (FRO) associated with Birt-Hogg-Dube syndrome (BHDS), and (4) hereditary renal carcinoma (HRC)[1]. Robson reported a 5-year survival rate in 1969 to be around 66% for stage I renal carcinoma, 64% for stage II, 42% for stage III, and only 11% for stage IV. Except for stage I, these survival statistics have remained essentially unchanged for several decades[1,7, 9].

Other rare primary malignancies that have been reported to arise in the kidney include oncocytomas, lymphomas, soft tissue

sarcomas (eg, leimyosarcoma, liposarcoma), and carcinoids[10-12].

Renal oncocytomas are uncommon benign tumors, which are believed to arise from the intercalated cells of the renal collecting tubules, and behave differently from renal cell carcinomas. They may coexist in rare genetic syndromes, and some specific chromosomal abnormalities were postulated to differentiate it from renal cell carcinoma[13-16]. Renal oncocytoma can be also differentiated from renal cell carcinoma preoperatively by CT examination, which shows central stellate scar within an otherwise homogeneous tumor on ultrasound and CT scan, and an angiographic spoked-wheel pattern, may occur in renal cell carcinomas. Cystic necrosis and calcification are rare in oncocytoma and more common in renal cell carcinoma[13,17-20]. These criteria, which are reliable only if the mass is 3 cm or larger, would have resulted in the correct diagnosis of oncocytoma in 16/18 cases[13]. Nephron-sparing surgery is rather adequate in oncocytoma, but when it coexists with renal cell carcinoma, invading the perirenal fat, showing rapid growth or when preoperative differentiation from renal cell carcinoma is uncertain, radical nephrectomy is warranted[15,16].

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