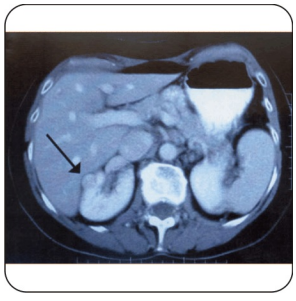
CASE REPORT PROF-1316

BILATERAL MULTIFOCAL RENAL CELL CARCINOMA



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ABSTRACT... Bilateral synchronous renal cell Carcinomas occur in approximately 1-3% of all patients with RCC. Ultrasound and contrast-enhanced CT scan are the most useful tests for diagnosing and staging. US has an advantage over CT in determination of nature of the lesion (solid/cystic). CT is more sensitive in evaluation of lesion size and detection of calcification and necrosis. CT also has an advantage over US in evaluation of perinephric extension, adjacent organ infiltration and regional lymphadenopathy. Both US and CT are equally sensitive in detection of IVC thrombus.

Key words: Renal cell carcinoma. Multifocal bilateral. Ultrasound. Computerized Tomography

INTRODUCTION

Renal cell carcinoma accounts for approximately 3% of adult malignancies. Many renal cell carcinomas are now being discovered incidentally during abdominal US and CT done for reason other than suspected renal tumor. When a renal mass is discovered, the next step is to characterize the lesion thereby increasing cure rate and patient survival[1].

US, CT and percutaneous biopsy all may help in diagnosing renal neoplasms. However, various combinations may be necessary for lesion characterization. CT is the most sensitive diagnostic test and has greater than 90% accuracy in determining tumor stage and respectability[2].

CASE REPORT

A 62 years old woman presented with vague left sided

abdominal discomfort of 03 years duration. There was no history of hematuria, weight loss or backache. On examination, there was no palpable mass. Laboratory data revealed normal urine analysis and Hb% 11.6 g/dL.

Ultrasonography revealed bilateral multifocal renal hypoechoic masses (Figure 1).

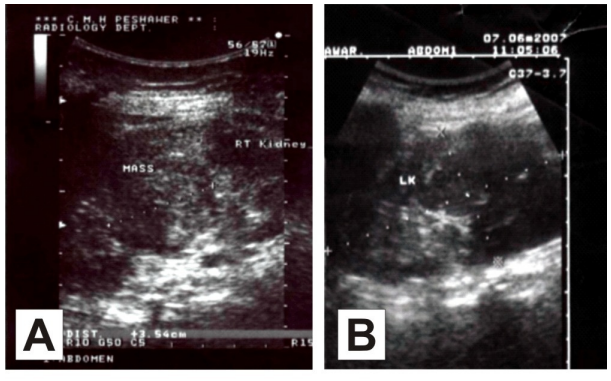

Fig-1. Ultrasound Abdomen. Bilateral multifocal well defined, hypoechoic renal masses

The masses were hypoechoic and well defined, one in right kidney and three on left side ranging in size from 1.5 cm to 8 cm. Color Doppler ultrasound revealed peripheral hypervascularity. This prompted further evaluation with CT scan that demonstrated bilateral renal masses, with the largest measuring 6 ×8 cm involving lower half of left kidney (Figure 2). No area of necrosis, hemorrhage or calcification was seen. The CT appearance was consistent with Renal cell carcinoma, Oncocytoma[3] or Lymphoma[4]. The workup for metastases yielded negative results. As definitive diagnosis could only be achieved by the procurement of a tissue sample, US guided biopsy of the largest mass was performed which confirmed the diagnosis of RCC of Clear cell type.

The patient subsequently underwent right sided partial nephrectomy with excision of a well-circumscribed, reddish brown mass. 8 weeks later, left sided radical nephrectomy was carried out which revealed three lobulated partially necrotic lesions. The final pathologic diagnosis confirmed that all the lesions were RCC of Clear cell type.

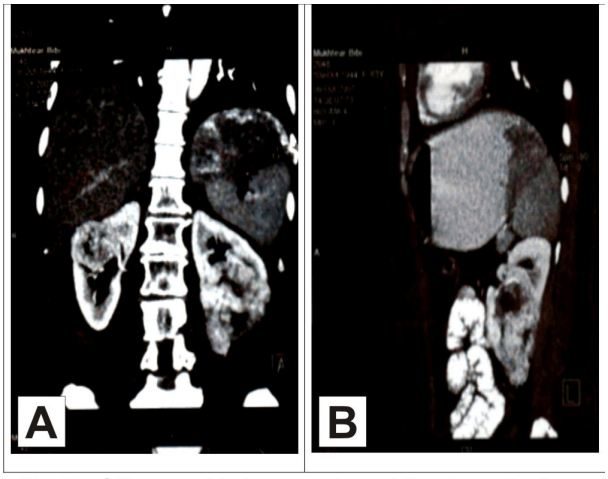

Fig-2. CT scan Abdomen. A and B. show 3x4 cm well defined mass in upper pole of right kidney and 6x8 cm mass involving inferior pole of left kidney. They exhibit inhomogeneous contrast enhancement.

DISCUSSION

Renal cell carcinoma is the sixth leading cause of cancer death. It is twice as common in men as in women. This condition occurs most commonly in the fourth to sixth decades of life.

One to 3 percent of tumors are bilateral. Hereditary forms of bilateral RCCs are more common. Less than 2% of patients with sporadic RCC have bilateral neoplasms[5]. Sporadic bilateral synchronous RCCs can be of either the clear cell or papillary subtype. The prevalence of multifocality is greater in patients with bilateral synchronous RCCs than in those with unilateral RCC[6].

US and CT are the mainstay of diagnosis in imaging of renal masses as they are more accurate in detecting and characterizing renal masses[7]. For tumors 3 cm in diameter or less, the sensitivities of ultrasonography, and computed tomography have been quantified as 79 percent and 94 percent, respectively[8,9]. Diagnosis of

renal neoplasms by CT depends mainly on demonstration of significant contrast enhancement. Other criteria for diagnosis of neoplasms include central calcification, margin irregularity and inhomogenicity. US is usually an excellent complementary procedure when CT findings are indeterminate. A metastatic work-up with chest x-ray and bone scan is commonly conducted.

To conclude, it is most often possible to characterize a variety of renal neoplasms on US, CDFI and CT, based on the image morphology. It is recommended that US should be the screening modality in patients suspected of renal neoplasms. It has a definite advantage in evaluation of renal vein invasion by the lesion and shows better demonstration of relationship of upper polar lesions with liver and spleen. CT should be used for further characterizing the masses and for staging of the malignant tumors[10]. However CT has its limitation in differentiating stage I lesions from stage II and stage IVa lesions. Percutaneous biopsy may be helpful in the diagnosis of suspicious lesions[11].

The role of MR imaging in evaluating renal masses remains uncertain but it has the advantages of vascular imaging capabilities and multiplanar imaging capacity[12].

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