

BILATERAL SYNCHRONOUS MULTIFOCAL RENAL CLEAR CELL CARCINOMA

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A 56-year-old man with a history of hypertension, alcoholism and active smoking, was admitted because of progressive dyspnoea and leg oedema. He also mentioned an increase of his abdominal perimeter and a weight loss of 20 kg during the last two months. On admission, blood pressure was 130/80 mmHg, body temperature was 35.6° C and pulse rate 75 per minute. Physical examination revealed bibasal thoracic dullness, bilateral massive kidney enlargement and ascites. Relevant laboratory data were: C-reactive protein 0.9 mg/dl, white blood cell count 6940/μl, serum urea 78 mg/dl, serum creatinine 1.65 mg/dl, GammaGT 184 UI/l, total serum bilirubin 1.8 mg/dl and serum albumin 4.2 g/dl. Urinalysis was unremarkable. Abdominal ultrasonography showed non-cystic polylobulated kidney enlargement (20 cm of major axis), with irregular contours. Abdominal MRI demonstrated large and numerous bilateral renal masses, with enlarged left adrenal gland (*figure A and B*). Bilateral pleural effusion and ascites were also noted.

A differential diagnosis of bilateral oncocytematosis – benign kidney involvement by oncocytoma - and malignancy was then made. Percutaneous biopsy of the left kidney revealed malignant infiltration in keeping with the diagnosis of clear cell carcinoma. Bilateral nephrectomy with left adrenalectomy was performed with subsequent hemodialysis treatment. Macroscopic peroperative inspection also demonstrated liver cirrhosis. Final anatomopathological findings confirmed bilateral multifocal clear cell carcinoma invading the left adrenal gland, without evidence of oncocytoma. Brain MRI, fundoscopy and genetics studies ruled out a Von Hippel Lindau syndrome (VHL).

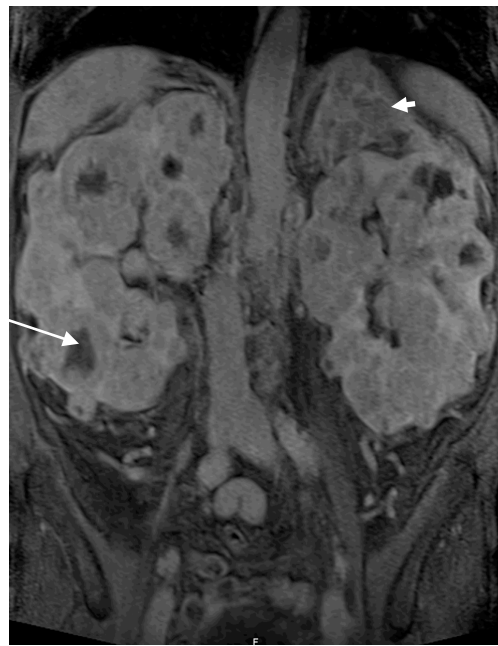
Renal cell carcinoma (RCC) is the most common kidney cancer and accounts for about 2% of adult malignancies. Bilateral synchronous multifocal renal cell carcinoma occurs in approximately 4% of all patients with RCC. Bilateral RCC of the same subtype can exist in a hereditary form (VHL, hereditary papillary RCC) or a sporadic form. Hereditary forms are more common than the sporadic forms, and occur at an earlier age. Sporadic bilateral synchronous RCC can be of either the clear cell as in our case, or of the papillary subtype. Tumour multifocality is demonstrated in preoperative imaging in only one-third of patients.

References:

- (1) Prando A, Prando D, Prando P. Renal cell carcinoma: unusual imaging manifestations. Radiographics 2006 ; 26 : 233-34
- (2) Spanomichos G, d'Achambeau O, Van Breusegem L, De Schepper A, Shamsi K. Bilateral primary synchronous renal cell carcinoma. J Belge Radiol. 1994 ; 77: 128-9
- (3) Moslemi MK, Saghafi H, Firoozabadi MH. Renal cell carcinoma with simultaneous bilateral adrenal metastasis: ipsilateral radical nephrectomy with contralateral adrenal preservation. Case Rep Oncol. 2010 ; 19 : 372-379.
- (4) Antonelli A, Cozzoli A, Simeone C, Zani D, Zanotelli T, Portesi E, Cosciani Cunico S : Surgical treatment of adrenal metastasis from renal cell carcinoma : a single centre experience of 45 patients. BJU Int 2006 ; 97 : 505-508.



A



B

Legends to the figures:

Abdominal MRI: (A) Coronal T2-weighted and (B) coronal T1-weighted gadolinium enhanced images showing diffuse involvement of both kidneys by tissue masses having an heterogeneous T2 signal intensity and diffuse enhancement after contrast injection. Sparse hypointense zones are seen (white arrow), at the cortico-medullar junction (stellate scars). On the same images, left adrenal involvement with similar MRI tissue pattern than in the kidneys is visible (white arrowhead).