BILATERAL KIDNEY PSEUDOTUMOR DUE TO SARCOIDOSIS: A RADIOLOGICAL STUDY CASE

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INTRODUCTION

Sarcoidosis is a multisystem noncaseating granulomatous disease of unknown etiology. It is found more frequently as adenopathy and lung parenchyma disease and rarely as kidney bilateral masses (1).

RESULTS: The radiological studies performed showed bilateral kidney masses and pulmonary calcified hilar adenopathies. Blood analysis showed renal failure and increased ACE levels. Renal biopsy showed non-caseating granulomas. Neurological symptoms and renal failure improved with corticosteroid therapy.

CONCLUSION: Bilateral kidney pseudotumor due to sarcoidosis is a rare pathology. Sarcoidosis must be included in the differential diagnosis work up of patients with inflammatory or autoimmune disease and bilateral kidney pseudotumors. Radiological findings of kidney sarcoidosis are quite unspecific. Histological diagnosis with CT guided biopsy or US guided biopsy of kidney masses may be performed.

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CASE REPORT

75 years-old man with history of headaches and visual problems due to hypertrophic pachymeningitis, presents prostate carcinoma with middle degree of dedifferentiation and hormonal therapy responding, renal failure and anemia. CT routine shows retroperitoneals middle enlargement (1 cm) adenopathies, hypoattenuating round-shaped areas in the right kidney and hypoattenuating generalized left kidney parenchyma. These findings are compatible with inflammatory disease (nephritis), vascular disease or infiltration tumor (metastatic or another tumor). US show hypoechoic, solid and decreased blood flow on power-Doppler lesions. These findings are not compatible with infiltration tumor. Power-Doppler and angio-CT show normal blood flow in the renal artery and renal vein. These findings are compatible with inflammatory disease as a probably option (Figures 1 and 2). Due to progressive renal failure mass CT-puncion biopsy was carried out. Histologic diagnosis shows interstitial fibrosis and noncaseating granulomas with giant cells (Figure 2). The analytic test shows an increase in ACE blood levels. Neurological symptoms and renal failure improved with corticosteroid therapy. All these findings are compatible with sarcoidosis. Later thoracic CT shows hilar and mediastinal calcified lymphadenopathy compatible with sarcoidosis. Lung parenchymal is normal. Actually patient goes on with the therapy and the clinic and analytic test are improved.

DISCUSSION

Sarcoidosis is found more frequently as lung parenchyma disease and mediastinal adenopathies (75%-90%). 15-30% Illness present extrathoracic sarcoidosis mainly skin (25%) and eye (25%) sarcoidosis. Kidney sarcoidosis usually appears as a microscopic (1-20%) more than as a macroscopic disease and usually arise as membranous glomerulonephritis, renal calculi, tubule disease, vasculitis, amyloidosis, renal failure, sarcoidosis, retroperitoneal fibrosis with ureteral stricture, arterial hypertension due to renal parenchyma disease or renovascular hypertension and hypercalcemia with hypercalciuria. Nevertheless tumoral kidney masses due to noncaseating epithelioid granulomas (composed of lymphocytes, peripheral fibroblasts, multinucleated giant cells) are very rare. These tumoral kidney masses due to sarcoidosis are called “pseudotumoral mass sarcoïds” or “sarcoïdes”. Their incidence is not well known (1, 2, 3). Also uterine, testicular, hepatic, pancreatic, thoracic, parotideal … “sarcoïdes” have been described (4).

Generally sarcoidosis clinics findings are different according to location disease. The onset of this disease usually is between the ages of twenties and forties. Also these patients present malaise, fever, weight loss

FIGURA 1A). Head CT: Diffuse dural thickening. 1B) and 1C). Abdominal CT: Hypoattenuating round-shaped areas in the right kidney and hypoattenuating generalized left kidney parenchyma.
and constitutional symptoms that suggest the existence of neoplasm (usually lymphoproliferative disease). The renal failure has been described as the first symptom, although is rare. At the onset prostate carcinoma, renal failure, anemia and kidney bilateral masses suggest an infiltration tumor or a vascular disease. Nevertheless US and angio-CT put forward the possibility of another disease. As the patient was clinically worse, renal mass biopsy was performed due to the histopathological information given by this proof. On the other hand hypertonopic pachymeningitis is a diffuse dural thickening. This disease produces cranial nerve palsy, visual problems and headaches. It is a rare disease and can have unknown etiology or be associated to tuberculosis, sarcoidosis or fungal infection. In the long standing history this patient was diagnosticated of idiopathic hypertonopic pachymeningitis. Definitive diagnostic was performed by clinical findings (neurological symptoms and renal failure were improved with corticosteroid therapy principally), blood analysis findings (anemia and increase in ACE levels), radiological findings (US, Doppler, body-CT and CT biopsy) and histopathological study. Our patient’s age is older than those reported in previous studies (although we do not know exactly when his symptoms began) [3, 4, 5].

“Renal sarcoide” radiological findings are unspecific. It can appear as hypointenuating masses round-shaped or generalized in CT, as hypoechoic solid with decreased blood flow on US or as heterogeneous signal intensity on T1W and T2W lesions on MRI. These findings have been reported in urothelial carcinoma, renal cell carcinoma, metastases (associated to breast cancer in Mizunoe S et al, associated to urothelial carcinoma in Fukutani K et al or associated to prostate carcinoma in this case), lymphoma, nephritis or vascular disease (arterial infarction and venous partial infarction). US and CT can be used to manage the biopsy. This biopsy can take the definitive diagnosis and permits a conservative treatment [6, 7, 8].

**CONCLUSION**

Renal tumor is possible in sarcoidosis, although is rare. “Renal sarcoide” must be included in kidney masses differential diagnosis. When the patient has symptoms in several body organs and these symptoms are improved with corticosteroid therapy, inflammatory or autoimmune disease must be included in differential diagnostic. Radiological findings of kidney sarcoidosis are quite unspecific. Histological diagnosis with CT biopsy or US biopsy of kidney masses could be performed.
REFERENCES AND RECOMMENDED READINGS
(*of special interest, **of outstanding interest)


