

Renal oncocytomatosis

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ABSTRACT

Bilateral, multifocal renal oncocytomatosis is rare. We present an unusual case of bilateral oncocytomas associated with microscopic foci of cortical oncocytic cell hyperplasia in a 71 year-old male patient. Unlike some previous reports of multiple nodules with diffuse involvement of renal parenchyma requiring bilateral nephrectomy, this case presented with three major well circumscribed nodules which allowed nephron sparing surgery.

Key-Words:

Kidney; nodular oncocytomatosis.

INTRODUCTION

Oncocytomas accounts for ~5% of all renal parenchymal neoplasia¹. These tumours are usually benign and unequivocal malignant behaviour exceptionally rare². The occurrence of bilateral multifocal oncocytomas is rarely reported in the literature.

CASE REPORT

A 71 year-old male patient with previous diagnosis of prostatic carcinoma presented bilateral renal tumours in imaging exams during prostate cancer staging. Renal function was preserved. The patient underwent resection of a 3.0 cm isolated nodule in the left kidney. At gross examination, the cut

surface was solid and orange in colour with homogeneous appearance and haemorrhagic centre. Microscopic examination revealed an epithelial neoplasia of large cells with abundant eosinophilic cytoplasm with ovoid and regular nuclei (oncocytic appearance) (Fig. 1). The adjacent parenchyma exhibited nephrocalcinosis and chronic inflammatory foci. In addition, multiple foci of hyperplasia of tubular cells with oncocytic appearance were detected (Fig. 2). The final diagnosis of oncocytoma suggested the possibility of renal oncocytomatosis due to the nodules discovered in the right kidney. A month later, further surgery removed two tumours from the right kidney: a 2.5 cm orange posterior face nodule and 2.0 cm yellow anterior face nodule. Microscopic analysis confirmed the diagnosis of oncocytoma in both lesions.

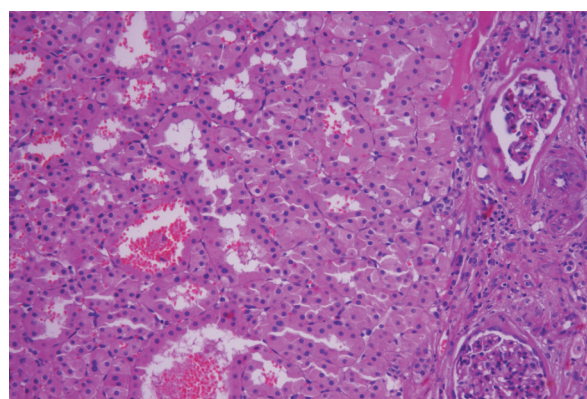


Figure 1.

Transition area between oncocytoma and renal cortex. Note oncocytic appearance of tumour cells (Haematoxylin and eosin, original magnification x 20)

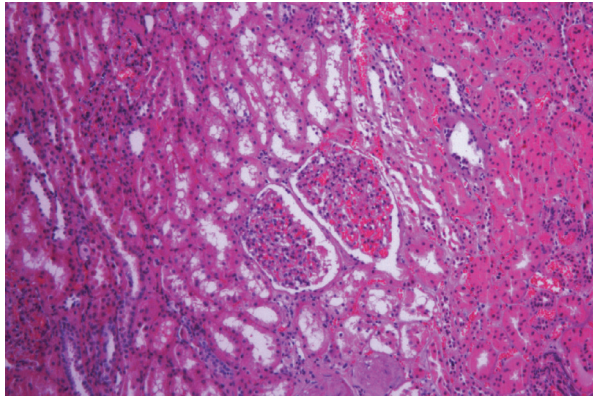


Figure 2.

Renal cortical exhibits areas of oncocytic transformation in proximal tubules (Haematoxylin and eosin, original magnification x 10)

DISCUSSION

The most important differential diagnosis of oncocytoma, especially when detected as bilateral or multifocal masses, is renal cell carcinoma (RCC). Although a typical oncocytoma will exhibit large epithelial cells with abundant eosinophilic cytoplasm, some variants of RCC, particularly eosinophilic variant of chromophobe RCC, may pose difficulties for the pathologist³. Indeed, a case described as multifocal unilateral oncocytomatosis² had this diagnosis disputed on the basis of presence of perinuclear halo and thick borders, both important diagnostic clues to chromophobe carcinoma⁴.

The term oncocytomatosis may indeed refer to a wide spectrum of presentations including multiple small nodules throughout the renal parenchyma, which may lead to rapidly progressive renal failure⁵ or more localised conditions such as the present case in which three small and well circumscribed nodules were observed. In the mid zone, conservative surgery has been successfully used for local removal / enucleation of 29 well circumscribed small nodules affecting the kidneys¹. Such presentation (as well defined nodules) seems to be the most common since the authors of the latter report reviewed 25 cases published until 1997 that presented as synchronous bilateral oncocytomas, nine consisting of bilateral multifocal lesions. A large series of 140 oncocytomas observed 8 (6%) cases of multifocal tumours⁶.

To date, three cases of multifocal oncocytomas have been reported in patients requiring chronic haemodialysis. Cause and effect association may be hard to interpret. Indeed, there are also three published cases of solitary oncocytomas in chronic haemodialysis². More atypical presentations have also been reported. Those include a metachronous picture of oncocytomatosis after removal of a solitary oncocytoma in contralateral kidney⁷, and coexistence of pituitary prolactinoma, basal cell carcinoma of the nose and colonic adenocarcinoma (Tornóczy 1997). More recently, two oncocytomas and one myelolipoma were reported in the same kidney⁸. To date, we cannot exclude that such associations may be merely circumstantial. More frequently, the presence of oncocytomas are associated with renal carcinomas^{9,10} and a series of 140 renal oncocytomas reported a concomitant RCC in 14 (10%) of all cases, thus suggesting a potential true biologic association between both tumours⁶.

Nephrectomy has been advocated as the treatment of choice based on the observation that oncocytomatosis may involve multiple small areas in the renal parenchyma⁵ and also because there is evidence of the malignant potential of oncocytoma, albeit under-reported^{11,12}. In the present case, the patient had preserved renal function, advanced age and tumours in both kidneys. Nephron sparing surgery was the treatment of choice.

Conflicts of interest. None declared.

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