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Uro-Oncology
Case report

A rare case of synchronous association of chromophobe renal cell carcinoma with urothelial carcinoma of urinary bladder

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KEYWORDS
Chromophobe;
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Abstract
Introduction: Chromophobe renal cell carcinoma accounts for 3–5% of all RCCs. However, its association with urothelial carcinoma of urinary bladder has never been reported. We report a case of synchronous association of chromophobe RCC with low grade urothelial carcinoma of urinary bladder.
Observations: A 64-year old gentleman, presented with a dull aching pain in right loin region of one month duration. General physical and abdominal examinations were unremarkable. Ultrasonography of abdomen showed a well-defined hypoechoic mass lesion involving the lower pole of right kidney. CECT abdomen revealed a partially exophytic mass lesion of size 4 cm × 4.3 cm × 5.1 cm arising from lower pole of right kidney. Surprisingly, urinary bladder also showed a polypoidal mass lesion measuring 15 mm × 12 mm × 13 mm in posterior wall inferior to right vesico-ureteric junction. We proceeded with right partial nephrectomy followed by transurethral resection of bladder tumor. Histopathology report revealed chromophobe RCC and low grade urothelial carcinoma of urinary bladder. The patient is under regular follow-up.
Conclusion: Synchronous association of chromophobe RCC with urothelial carcinoma of urinary bladder has not been reported so far, hence there is no scientific consensus in the management of these lesions.

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Introduction

Chromophobe RCC accounts for 3–5% of all RCCs, that appears to be derived from the cortical portion of the collecting duct [1–3]. Thoenes and colleagues first described this entity in 1985, showing a 4.6% incidence in a series of 697 RCC cases [4]. In 1986, chromophobe RCC was included in the Mainz-Classification of renal cell tumours, which was based on histological and cytological criteria [5]. The Mainz-Classification was later revised in the Heidelberg Classification [6], which represents the current standard for sub-typing of renal cell tumours.

Although chromophobe RCC has been reported to have a more favourable prognosis than conventional renal cell carcinoma [4,7–9], sarcomatoid transformation has been reported [10,11]. Chromophobe RCC is commonly seen in the Birt–Hogg–Dubé syndrome, but most cases are sporadic. However, its association with urothelial carcinoma of urinary bladder has never been reported in literature. We report here such an unusual synchronous presentation of chromophobe RCC with urothelial carcinoma of bladder.

Case report

A 64-year old gentleman, presented with dull aching pain in right loin region of 1 month duration. General physical and abdominal examinations were unremarkable. Ultrasonography of abdomen showed a well-defined hypoechoic mass lesion of size 5 cm × 3.7 cm involving the lower pole of right kidney (Fig. 1). Further, CECT abdomen revealed a partially exophytic mass lesion of size 4 cm × 4.3 cm × 5.1 cm arising from lower pole of right kidney (Fig. 2). Surprisingly, urinary bladder also showed a polypoidal mass lesion measuring 15 mm × 12 mm × 13 mm in posterior wall inferior to right vesico-ureteric junction (Fig. 3). Left kidney was normal.

We proceeded with right partial nephrectomy followed by transurethral resection of bladder tumour (TURBT). A single, immediate, post-operative intravesical instillation of chemotherapy (Mitomycin C) was given. Histopathology report came as chromophobe RCC (Fig. 4) for the partial nephrectomy specimen. Hale's colloidal staining was positive (Fig. 5). Immunohistochemical staining was positive for epithelial membrane antigen and CD117

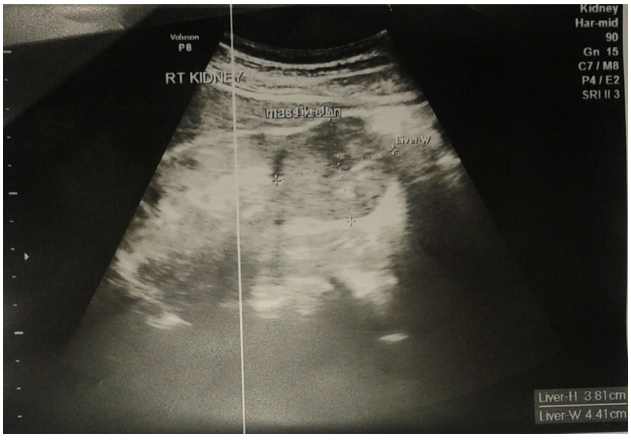

Figure 1 Ultrasonography of abdomen showing a well-defined hypoechoic mass lesion in the lower pole of right kidney.

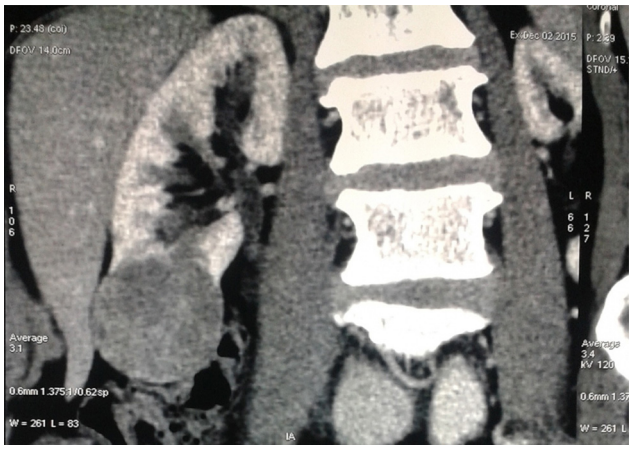

Figure 2 CECT abdomen showing a partially exophytic mass lesion arising from lower pole of right kidney.

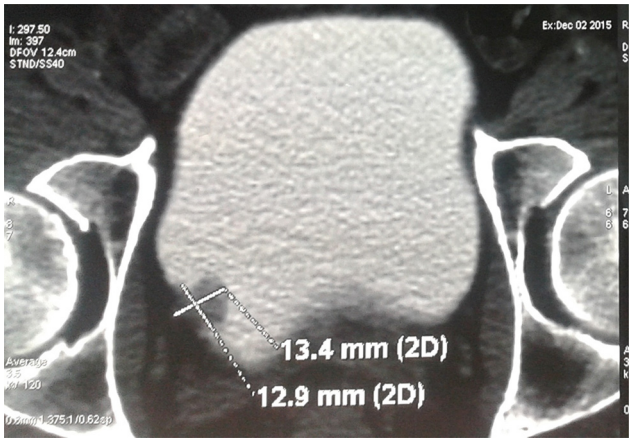

Figure 3 A polypoidal mass lesion in posterior wall of urinary bladder inferior to right vesico-ureteric junction.

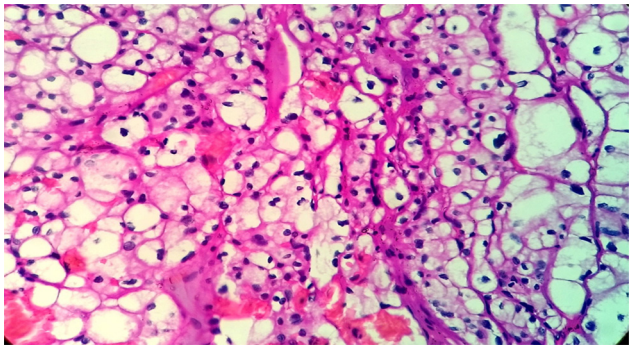

Figure 4 Chromophobe RCC features *Large polygonal* cells with transparent slightly reticulated cytoplasm with prominent cell membranes, and *Smaller cells* with granular eosinophilic cytoplasm.

(Figs. 6 and 7). However, it did not stain for vimentin (Fig. 8). TURBT specimen was reported as low grade superficial papillary urothelial carcinoma (Fig. 9). The patient is under regular follow-up, and no signs of recurrence has been detected.