Papillary Renal Cell Carcinoma Masquerading as Hemorrhagic Renal Cyst

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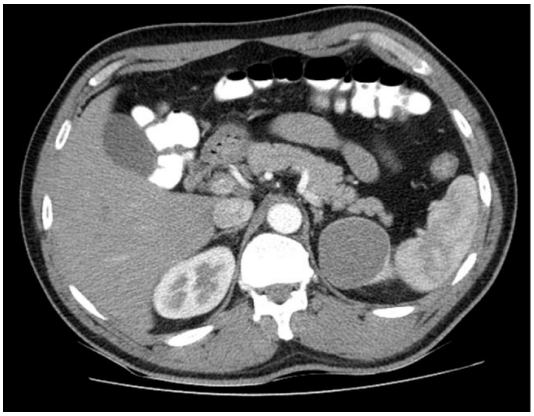
INTRODUCTION

Renal tumors are the third most common malignancies after prostate and bladder cancers amongst the urologic neoplasms [1]. Renal cell carcinomas (RCCs) account for 85% of all renal epithelial tumors. Clear cell is the most common subtype of RCC, papillary and chromophobe subtypes are the other common histologic subtypes. Here in, we report a case of papillary RCC presenting with hematuria which was diagnosed as hemorrhagic renal cyst in radiologic imaging.

CASE REPORT

A 37-year-old male presented to the outpatient clinic with hematuria for three months. General physical examination did not reveal any significant finding and serum creatinine and electrolytes were normal. Ultrasound revealed a 47 x 41 mm sized renal cyst on the left kidney. Computerized tomography (CT) scan showed a 60 x 46 mm sized lesion on the left kidney with minimal contrast enhancement (Figure 1). Magnetic resonance imaging (MRI) confirmed the CT findings. On laparotomy, a solid mass on the upper pole of the left kidney was noted. Open partial nephrectomy was performed under cold ischemia (Figure 2). No complication occurred during operative and postoperative periods.

Figure 1: Minimal contrast enhancement of the lesion



The tumor was well circumscribed with micropapillary patterns on histopathological examination. Tumor cells predominantly consisted of clear eosinophilic cytoplasm and a large nucleus.

The surgical margins were negative for tumor cells and the tumor was graded as grade 2 based on the Fuhrman (nuclear) grading. On immunohistochemical study, tumor cells showed strong immunoreactivity for cytokeratin 7 and vimentin, were weakly positive for CD 117 and epithelial membrane antigen, and negative for E-cadherin. The patient had no complaints during the 9-month follow-up.

DISCUSSION

Papillary RCC is the second most common subtype of all renal epithelial tumors (10-15%) [2]. According to morphological and cytogenetic studies, papillary RCC is classified as type 1 and 2. These tumors can occur sporadically or as a part of a hereditary syndrome [3].

Cytogenetic abnormalities include trisomy or tetrasomy of chromosome 7 and 17, high frequency loss of chromosome Y and trisomies of chromosome 12, 16 and 20 [2]. Although hereditary papillary RCC is associated with MET oncogene mutations, the role of this pathway is less clear in sporadic cases [4]. Stage, tumor size, nuclear grade, and subtype are important predictors of survival. In general, papillary RCC has more favorable prognosis than clear cell RCC. However, prognosis is poor in metastatic cases of papillary RCC which may be related to its resistance to immunotherapy and chemotherapy. New drugs such as tyrosine kinase and mTOR inhibitors are likely to be effective in papillary RCC [5].

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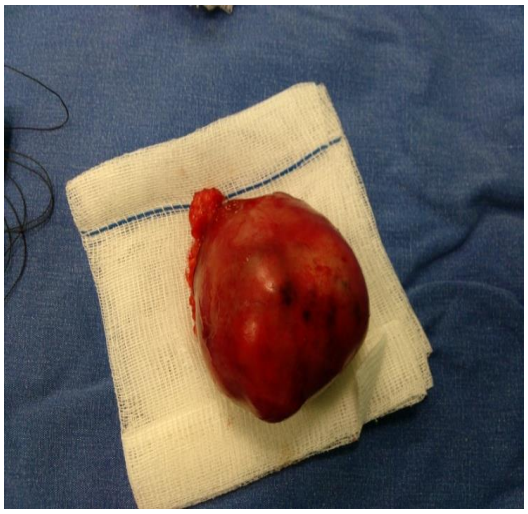
Figure 2: Solid mass excised from the kidney



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