Cystic Renal Cell Carcinoma, Multilocular or Cystic Necrosis

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Background: To compare the clinical presentation, radiological features, surgical prognosis and treatment options between multilocular cystic renal cell carcinoma (MCRCC) and renal cell carcinoma (RCC) with cystic necrosis. Methods: A retrospective review was carried out to investigate the patients with RCC at the Tri-Service General Hospital during an 11-year period (from 1993 to 2003). The clinicopathologic features, radiological features, surgical procedures and follow-up outcomes were recorded. Results: Among 128 cases of RCC, 13 cases of RCC with cystic components were identified according to the pathologic files. Among them, 4 cases were MCRCC (3.13 % of all RCC cases), 4 cases were RCC with cystic necrosis and 5 cases were RCC superimposed with simple cysts. Seventy-five percent cases of MCRCC and 25 percent cases of RCC with cystic necrosis were found incidentally. Otherwise, the common symptoms were flank pain and gross hematuria. The overall mean age of MCRCC was 61±11.3 years whereas RCC with cystic necrosis was 58.7±13.6 years. For treatment, radical nephrectomy and partial nephrectomy were done in 2 cases respectively in the cases of MCRCC. Radical nephrectomy was applied in all the cases of RCC with cystic necrosis. The mean tumor size of MCRCC and RCC with cystic necrosis were 4.3±1.6 cm and 8.1±1.9 cm, respectively. The clinical staging were all stage I in cases of MCRCC, whereas 2 in stage II and 2 in stage III in cases of RCC with cystic necrosis. For all the cases, there was no tumor recurrence or metastasis till now. The overall mean follow-up period was 43±29.2 months. Conclusions: MCRCC represents an uncommon but distinct subtype of renal cell carcinoma that could be cured by nephron-sparing surgery. The clinical staging and nuclear grading of MCRCC is better than that of RCC with cystic necrosis. Histopathologic examination rather than radiologic differentiation is mandatory to distinguish the two diseases.

Key words: multilocular, necrosis, nephron-sparing surgery, renal cell carcinoma

INTRODUCTION

Renal cell carcinoma (RCC) is the most common tumor of the kidney in adults, representing 3% of all adult malignancies, and 80% to 90% of all primary renal neoplasms1. Multilocular cystic renal cell carcinoma (MCRCC) is a predominantly cystic lesion of kidney and an uncommon histologic subtype of conventional (clear cell) RCC with a reported incidence between 1% and 6% of RCC2-5. RCC, known as renal adenocarcinoma, is prone to develop cystic change. According to the literatures, RCC shows cystic patterns on imaging studies in 4% to 15% of the cases6. A complex of cystic renal lesions, including multilocular cystic nephroma, RCC with cystic necrosis and MCRCC, contains different natural course and clinical prognosis. A histopathologic examination is often mandatory to delineate the benign or malignant nature. Hartman’s classification was employed to categorize the RCC with cystic components. MCRCC is considered to be with low grade and low stage of malignancy and can benefit from nephron-sparing surgery7. Meanwhile, RCC with cystic necrosis seems to be just as aggressive as ordinary RCC. We compared the clinicopathologic features and surgical prognosis in patients with MCRCC having undergone surgery to those with RCC with cystic necrosis in our institution.

MATERIALS AND METHODS

We reviewed the pathology files of RCC of the Tri-