

The Size of Small Renal Cell Carcinoma Is a Prognostic Factor

Introduction and Objective: Recently, the use of advanced diagnostic imaging techniques has led to an increased incidence of small renal cell carcinoma (RCC). In the present study, we evaluated the influence of tumor size on pathological characteristics and prognosis in small RCC.

Materials and Methods: We retrospectively reviewed records of patients who underwent surgery between 1992 and 2010 for renal tumors of up to 4 cm in a diameter that were suspected of being RCC. We analyzed pathologic features and recurrence-free survival in 239 patients without synchronous metastasis. And seven patients with nodal and distant synchronous metastasis were analyzed. For data analysis, patients were stratified by tumor size into two groups: a smaller size group which had tumors of up to 2.0 cm, and a larger size group which had tumors of 2.1 to 4.0 cm in diameter.

Results: Median tumor size in 239 patients was 2.8 cm. Patients were stratified into the smaller size group (30%) and the larger size group (70%). The histological subtypes were clear cell in 91 % of patients, papillary in 4 % and chromophobe in 5%. An advanced tumor stage (pT3) was not found in any patients (0%) in the smaller size group, but in 10 patients (6%) in the larger size group. Tumors of Fuhrman grade 3 or 4 were found in two patients (3%) in the smaller size group and 15 patients (9%) in the larger size group. Microvessel invasion, a sarcomatoid component, a rhabdoid component and necrosis were seen in the tumors of some patients. All of them were stratified into the larger size group. The smaller size group had a higher level of recurrence-free survival than the larger size group. All patients with synchronous metastases were stratified into the larger size groups.

Conclusions: There is risk of metastatic disease in small RCC. However, careful decision-making is required in relation to surgical intervention, because there may be no risk of metastasis in renal cell carcinomas of up to 2 cm in diameter.