

Prognostic Role of Clinical and Pathological Factors in Patients with Renal Cell Carcinoma

Introduction and Objectives: The aim of this study was to evaluate the prognostic role of pathologic factors in patients with renal cell carcinoma (RCC) without lymph node (LN) or distant metastases and to assess their influence on progression-free (PFS) and overall survival (OS).

Materials and Methods: There were 543 patients with RCC, after radical nephrectomy (RN) in 1992-2009. Lymph node dissection (LND) was performed in 369 (67.9%) patients. No LND – in 174(32.1%) patients. Clinical stage was cT1a in 18.4% patients, cT1b-27.5%, cT2a-20.8%, cT2b-3.9%, cT3a-21.7% and cT3b in 7.7%. The group of 33 (8.9%) patients with LN metastases was excluded from survival analysis. Median of follow up was 52 (1-206) months. Recurrences were verified in 79 (14.5%) patients and 53 (9.8%) patients died due to progression; 14 patients (2.6%) died from other reasons.

Results: Significant correlation observed between presents of clinical symptoms ($R=0.21$), pT ($R=0.24$); tumor size ($R=0.26$); presence of tumor necrosis ($R=0.22$); vascular invasion ($R=0.17$); sarcomatoid features ($R=0.16$); Fuhrman grade ($R=0.15$) and probability of recurrence ($p<0.001$). In multivariate analysis correlation of recurrence incidence was observed between symptoms, presence of sarcomatoid features and tumor necrosis ($p<0.001$). Log-rank analysis has demonstrated 5-year OS and PFS rates for patients without symptoms: 91.6%, 87.5%; with local symptoms – 88.7%, 78.7%, and with systemic symptoms - 64.3%, 51% ($p<0.001$). Five-year OS and PFS rates for patients with absence of sarcomatoid features were 88.6%; 81.6% and with sarcomatoid features - 67.6%, 35.7% ($p<0.001$). Significant difference in 5-year OS and PFS in subject with presence of tumor necrosis were observed as 78.2% and 69.2%, and in cases of absence of tumor necrosis – 94.3% and 87%, respectively ($p<0.001$). In case of presence of vascular invasion 5-year PFS and OS rates was only 64.5%, 75% and it was 85.1%, 92.2% with no vascular invasion observed ($p<0.001$). pT stage, presence of symptoms, sarcomatoid features, and necrosis are the most important prognostic factors ($p<0.05$), influencing PFS and OS in patients with RCC.

Conclusion: pT stage, presence of clinical symptoms and necrosis are the most important prognostic factors, influencing PFS and OS in patients with RCC.