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Is Stat3 and/or p53 mRNA expression a prognostic marker for renal cell carcinoma?

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ABSTRACT

Signal transducer and activator of transcription (Stat) 3 and p53 integrate upstream signals, and are positive and negative regulators of tumor cell proliferation, respectively. Stat3 and p53 also negatively regulate each other. However, their roles remain elusive in patients with renal cell carcinoma (RCC). We quantified Stat3 and p53 mRNA expression in paired tumor and non-tumor surgical samples from 47 Japanese patients with RCC by the real-time reverse transcription polymerase chain reaction (RT-PCR) technique. Absolute levels of Stat3 and p53 mRNA were lower in tumor tissues compared with non-tumor tissues ($P < 0.0001$). The absolute levels of Stat3 and p53 mRNA in RCC tissue were not correlated with tumor histology, stage, or metastatic behavior. Kaplan-Meier analysis showed that a high level of Stat3 or p53 mRNA expression was associated with shorter overall survival compared to low expression ($P = 0.254$ and $P = 0.066$, respectively). In addition, the tumor tissue levels of Stat3 and p53 mRNA expression were correlated with each other ($r^2 = 0.697$, $P < 0.01$). These findings suggest that Stat3 and p53 are cooperatively involved in the development of RCC, but assessment of their mRNA expression may not be useful for predicting the prognosis of patients with RCC.

[PDF (429K)] [References]

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