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Prognostic significance of CA 125, CD44, and epithelial membrane antigen in renal cell carcinoma.

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Source

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Abstract

OBJECTIVES:

To study retrospectively CA 125, CD44, and epithelial membrane antigen (EMA) expression in renal cell carcinoma and their role as prognostic factors. CD44 is a cell adhesion molecule, and CA 125 and EMA are tumor-associated antigens used in the diagnosis and monitoring of the outcome and response to treatment of various human malignancies. Their expression and prognostic significance after resection of renal cell carcinoma have not been adequately studied.

METHODS:

The expression of CA 125, CD44, and EMA were studied immunohistochemically and correlated with the outcome of 92 patients who underwent nephrectomy for renal cell carcinoma.

RESULTS:

Positive staining was found for CA 125 in 28 patients (30.43%), CD44 in 48 patients (52.17%), and EMA in 74 patients (80.43%). CA 125 expression was increased in those with higher T stage ($P < 0.001$) and histologic grade ($P = 0.007$). An inverse relationship was found between EMA expression and grade ($P < 0.001$). The median follow-up was 41.5 months (range 30 to 65). The median survival for positive and negative patients was 34.6 versus 54.3 months for CA 125 ($P = 0.0044$), 48.3 versus 51.5 months for CD44 ($P = 0.4677$), and 53.2 versus 34 months for EMA ($P = 0.0046$). Multivariate analysis showed that CA 125 and EMA expression were independent prognostic factors ($P = 0.021$ and $P = 0.018$, respectively). Subgroup analysis showed that CA 125 expression predicted a significantly higher probability of death (28.6% versus 8%, $P = 0.0413$) in patients with T1 or T2 tumors.

CONCLUSIONS:

CA 125 and EMA appear to be useful prognostic markers in renal cell carcinoma. Additional studies are needed to determine the value of these markers as a means of selection for postoperative management.