

Clinical usefulness of MMP-2 and TIMP-2 concentrations in the preoperative serum of patients with colorectal cancer

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ABSTRACT

Purpose: To evaluate the clinical significance of MMP-2 and TIMP-2 concentrations in the sera of patients diagnosed with colorectal cancer.

Methods: The study group comprised 48 patients with colorectal carcinoma and 24 healthy controls. The serum concentration of MMP-2 and TIMP-2 proteins was evaluated by the ELISA method.

Results: The mean level of MMP-2 in the sera of patients with colorectal cancer was 39.4 ng/ml and was significantly lower compared with the control ($p < 0.001$). A decrease in TIMP-2 protein in the sera of patients with colorectal cancer was also observed where its mean level was 132.3 ng/ml. The concentration of MMP-2 and TIMP-2 did not correlated with any clinicopathological parameters, except for the patients' age. In addition, the

concentration of MMP-2 in the sera of patients with CRC correlated negatively with the number of white blood cells in the blood and the prothrombin index. The concentration of TIMP-2 correlated positively with potassium and urea concentration in the blood.

Conclusions: The results of our study indicate lack of clinical usefulness of determining the levels of MMP-2 and TIMP-2 in the sera of patients with colorectal cancer. However, these proteins play an important role in the carcinogenesis of colorectal cancer.

Key words: Colorectal cancer, matrix metalloproteinases, MMP-2, TIMP-2, serum marker

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