

Oncogene and tumor suppressor gene expression changes in the peripheral blood leukocytes of patients with colorectal cancer

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ABSTRACT

Aims and background. The mortality of colorectal cancer continues to stagnate despite the development of new therapeutic approaches. Therefore, identifying high-risk population groups could contribute to the prevention of a considerable part of deaths caused by colorectal tumors.

Methods. Fifty patients with colon cancer and 50 patients with other, nonmalignant diseases were selected for the study. Expression of the c-myc, Ha-ras and p53 genes was determined in the peripheral leukocytes of the participants.

Results. Marked elevations of the expression of all three investigated genes were seen in the colon cancer patients when compared to the controls.

Conclusions. Our investigations showed that increases in the expression of c-myc, Ha-ras and p53 genes can be demonstrated in the peripheral leukocytes of colon cancer patients. By applying our method to clinical investigations, individuals with a high risk of having developed colon cancer may be identified and early diagnosis may be established.

Key words: colorectal cancer, peripheral leukocytes, gene expression, early diagnosis, secondary prevention.

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