

## **K-RAS mutations in colorectal cancer in patients from Podlaskie region**

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### **ABSTRACT**

**Introduction:** In Poland, colorectal cancer is the second leading cause of death. The incidence of colorectal cancer increases with age and early onset indicates and increased likelihood for genetic predisposition for this disease. The somatic genetics of tumor development in relation to patients age, gender, sex and morphological factors are unknown in Podlaskie region, Poland.

**Materials and methods:** We investigated seventy five patients (43 men and 32 women) who underwent surgery for cancer of the colorectal in the II Department of General and Gastroenterological Surgery, Medical University of Białystok in 2002-2007. The average age of patients was 64.8 years (the average age of women 66.7, men 63.1). All patients for the study of molecular research (absence or presence of K-RAS mutations) had histopathology confirmed adenocarcinoma.

**Results:** There was no correlation presence or absence of mutations in K-RAS of the following clinical and morphological factors: gender, age, location, degree of tumor differentiation, tumor size and metastases to lymph nodes and other organs. The gene encoding the K-Ras protein is mutated in 20-50% of cases of colorectal cancer. Such a difference of results is influenced by several factors: differences of the techniques used for detecting mutations, differences in codon of the gene that is considered codon 12 and /or 13 and / or 61 and differences in the selection and study population.

**Conclusions:** These data suggest the clinical and morphological factors in patients with colorectal cancer have no effect on the presence of K-RAS mutation.

**Key words:** colorectal cancer, K-RAS mutation, Ras protein, Podlaskie region

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