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Association of Selected Polymorphisms of BER Pathway with the Risk of Colorectal Cancer in the Polish Population

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Abstract : The incidence of colorectal cancer (CRC) is increasing from year to year. Despite intensive research CRC etiology remains unknown. Studies suggest that at the basis of the process of carcinogenesis can lie reduced efficiency of DNA repair mechanisms, often caused by polymorphisms in DNA repair genes. The aim of the study was to determine the relationship between gene polymorphisms Pro242Arg of PolB gene and Arg780His of Lig3 gene and modulation of the risk of colorectal cancer in the Polish population. Determination of the molecular basis of carcinogenesis process and predicting increased risk will allow qualifying patients to increased risk group and including them in preventive program. We used blood collected from 110 patients diagnosed with colorectal cancer. The control group consisted of equal number of healthy people. Genotyping was performed by TaqMan method. The obtained results indicate that the genotype 780Arg/His of Lig3 gene is associated with an increased risk of colorectal cancer. On the basis of these results, we conclude that Lig3 gene polymorphism Arg780His may be associated with an increased risk of colorectal cancer.

Keywords : BER, colorectal cancer, PolB, Lig3, polymorphisms
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