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Investigation of relationship between -1195 A>G polymorphism of COX-2 gene and mRNA levels of COX-2 gene in peripheral blood monocyte in colorectal cancer patients**Hicran Senli, Leyla Bahar*, Nazan Eras, Tahsin Colak, Mehmet Ozgur Turkmenoglu, Seval Kul and Etem Akbas**
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Colorectal cancer (CRC) arises from the colorectal epithelium as a result of the accumulation of genetic alterations in defined oncogenes and tumor suppressor genes. The molecular changes occurring during the development of the tumor must be investigated in order to understand the carcinogenesis. The cyclooxygenase (COX) isoenzymes, COX-1 and COX-2, catalyze the formation of prostaglandins, thromboxane and levuloglandins. COX-2 is induced by inflammatory and mitogenic stimulants and prevails on tumor carcinogenesis by increasing the prostaglandin synthesis in inflammatory and neoplastic tissues. The aim of this study was to investigate the association the COX-2 gene -1195 A>G polymorphism and CRC risk. We also investigated the relationship between the COX-2 gene mRNA levels in peripheral blood monocytes and -1195 A>G polymorphism in CRC. Ninety individuals with CRC and 106 healthy individuals are included in our study. The genotypes are determined by using PCR-RFLP. RNA of individuals with CRC is isolated and RT-PCR is applied. Genotype distribution and allelic frequencies for -1195 A>G polymorphism of COX-2 gene were not significantly different between patients and controls. COX-2 gene mRNA levels and genotype distributions of this polymorphism has no difference between CRC patients and controls. While one of the other factors of developing CRC; the advanced age and male gender increases the risk of developing CRC, BMI, smoking and alcohol intake have no affect on risk of developing CRC. Our study is the first study to investigate the relation between -1195 A>G polymorphism and mRNA levels of COX-2 gene in CRC in Turkish population.

Biography

Leyla Bahar has graduated from Cukurova University, Faculty of Medicine and then worked as a Doctor in Mersin until 2002. She has completed her PhD in Mersin University, Faculty of Medicine in 2008 at Department of Histology-Embryology. She has published more than 20 papers and announcement in journals and has been serving as an Editor and Editorial Board Member of reputed. She is presently working as a Scientist and Lecturer at Mersin University.

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