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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

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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 weren't 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 effect 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, after graduating from Cukurova University Faculty of Medicine, worked as a Medical Practitioner in Mersin, until 2002. In the Department of Histology-Embryology, she completed PhD in Mersin University Faculty of Medicine in 2008. She has published more than 20 papers and announcement in journals and has been serving as a Consultant Editor and Editorial Board Member of reputable journals. She still continues to work as a Scientist and an Assistant Professor at Mersin University, who is working on many issues and as peer-reviewer in journals.

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