**Article:** The stromelysin-1 5A/5A genotype enhances colorectal cancer cell invasion in Iranian population.

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[show abstract]

**ABSTRACT:** Matrix metalloproteinases comprise a family of enzyme degrade components of extra cellular matrix. There are single nucleotide polymorphisms in the promoter regions of several genes with ability to influence cancer susceptibility. The aim of this study was to analyze association between MMP3 promoter polymorphisms and colorectal cancer occurrence and progression. In this case-control study 120 colorectal cancer patients and 100 controls were genotyped using polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP) on the genomic deoxyribonucleic acid (DNA). The patients group was divided into different subgroups: a subgroup without metastatic activity (M(-)) and a subgroup that had developed metastasis (M(+)). There was a significant difference in frequency of the MMP-3 genotype between cases and controls ($\chi^2 = 16.17; P = 0.0003$). The 5A homozygote in patients and controls was significantly different. The frequency of the 5A allele among affected patients (67.91%) was significantly higher than among the healthy controls (49%; $\chi(2) = 16.17, P = 0.00005$). At the time of diagnosis, individual who was carrying the 5A allele was more represented in the M(+) subgroup than in M(-) subgroup ($\chi^2 = 7.49; P = 0.006, OR = 3.86; 95\% CI, 1.43-10.33$). The difference between M(-) and controls did not observe statistically significant ($\chi^2 = 0.009; P = 0.92$). Our results suggest that the presence of 5A polymorphism at the MMP-3 promoter region may favor the growth and the metastasis process in colorectal cancer patients and could be looked at as a risk factor for a worse prognosis.

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