

IL-1 α serum level and IL-1 α promoter gene polymorphism in Iranian patients with gastrointestinal cancers

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Abstract

Background and Aim: Interleukin (IL)-1 α level and association of its two promoter gene polymorphisms at -107C/A and -137G/C positions were investigated in Iranian patients with gastrointestinal (GI) cancers. **Methods:** 222 cases of GI cancers and 112 healthy controls were enrolled. Serum level of IL-1 α was measured by enzyme linked immunosorbent assay (ELISA) and genotyping of IL-1 α gene polymorphisms were assessed by allele-specific polymerase chain reaction (PCR). **Results:** There was a significant difference in the frequency of -137 G/C genotype between patients with stomach or colorectal cancers and control group. In patients with colorectal cancer, the frequency of the -107AA/-137GC genotype combination in unwell-differentiated cases was more than those with well-differentiated cancer. Haplotype analysis showed that in patients with stomach cancer -107C/-137C and -107A/-137G and in patients with colorectal cancer -107C/-137C were decreased compared with control group, and this difference reached statistical significance. Serum analysis revealed that the mean IL-1 α serum level in stomach and colorectal cancer before and after surgical operation was significantly higher than healthy volunteers. Postoperative IL-1 α level for all patients with colorectal cancer was significantly decreased compared with the levels before surgery. **Conclusion:** Results of this investigation suggests that Single Nucleotide Polymorphism (SNP) at position -137 G/C and haplotype frequency may play a role in predisposition of Iranian patients to stomach and colorectal cancers. In addition, increasing serum IL-1 α level may have clinical importance as a diagnostic marker in patients with stomach and colorectal cancer. © 2009 Journal of Gastroenterology and Hepatology Foundation and Blackwell Publishing Asia Pty Ltd.

Reaxys Database Information

Author keywords

Colorectal cancer; Gastric cancer; IL-1 α

Indexed Keywords

EMTREE drug terms: interleukin 1 α

EMTREE medical terms: adult; allele; article; blood analysis; cancer surgery; colorectal cancer; controlled study; enzyme linked immunosorbent assay; female; gene frequency; genotype; haplotype; human; Iran; major clinical study; male; polymerase chain reaction; priority journal; promoter region; protein blood level; single nucleotide polymorphism; stomach cancer; tumor differentiation

MeSH: Alleles; Biological Markers; Case-Control Studies; Enzyme-Linked Immunosorbent Assay; Female; Gastrointestinal Neoplasms; Genetic Predisposition to Disease; Genotype; Haplotypes; Humans; Interleukin-1 α ; Iran; Male; Middle Aged; Polymerase Chain Reaction; Polymorphism, Single Nucleotide; Promoter Regions, Genetic
Medline is the source for the MeSH terms of this document.

Chemicals and CAS Registry Numbers: interleukin 1 α , 18930-4-00-0; Biological Markers; Interleukin-1 α