

The TAP1 gene polymorphism in gastric cancer in a population of Mazandaran

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Background and Aims: Gastric cancer is the fourth most common cancer and second leading cause of cancer death. The 'transporter associated with antigen processing' (TAP) gene products are involved in the processing of endogenous peptides that bind to class I molecules. Mutations and/or polymorphism within these genes could alter the efficacy of the immune response which might be relevant for the development of autoimmune diseases and cancer.

Methods: In this case-control study, 150 patients with gastric cancer (89 males and 61 females) with age range of 28-86 years, and 156 healthy volunteers with age and geographical conditions matched with same patients were recruited all originating from mazandaran.

TAP1 polymorphic residues at positions 333 and 637 were found using tetra-primer amplification refractory mutation system-polymerase chain reaction (tetra ARMS-PCR).

Results: The polymorphism of TAP1 gene was found in 150 patients were as followd : in TAP1-333, 2% (AA), 96% (A/G), 2% (G/G) and in TAP1-637, 2% (AA), 94.7% (A/G) and 3.3% (GG). In the 156 controls that was studied, the frequencies of polymorphisms were: 24.3% (AA), 75.04% (A/G), 0.6% (GG) in 333 allelic position and 5.1% (AA), 92.9% (A/G) and 1.9% (GG) in 637 allelic position.

Conclusions: Our result showed that there was significant association between polymorphisms of TAP-1 and gastric cancer ($p < 0.05$).

Keywords: Polymorphism; TAP1; Gastric cancer