Abstract

Gastric cancer is forth most common malignancy worldwide and the second most common cause of cancer-related mortality. Malignant transformation of gastric cells is the consequence of a multistep process involving different genetic and epigenetic changes in numerous genes in combination with host genetic background and environmental factors. Expression of the tumor suppressor, promyelocytic leukemia (PML) protein, is reduced or abolished in gastric carcinomas, in association with an increased level of lymphatic invasion, development of higher PTNM staging, and unfavorable prognosis. The promyelocytic leukemia (PML) is a tumor suppressor that has an important role in several cellular processes, including apoptosis, viral infection, DNA damage repair, cell cycle regulation, and senescence. In the present study, We have investigated mutataions of the *PML* gene locus in a cohort of 50 patients with Gastric Adenocarcinoma in Tehran, sistan va baloochestan ,Fars, Kashan, Mazandaran provinces.

Methods:

In this descriptive-lab based study we investigated for frequency of *TMC1* gene mutation in exons 1 ,5 and 9 of *PML* gene in 50 patients. DNA was extracted from paraffin-embbeded samples of all patients and blood samples of normal individuals following the standard phenol chloroform procedure. These exons of the *PML* gene was polymerase chain reaction (PCR) amplified. Then *PML* gene mutations were investigated using Polymerase Chain Reaction – Single Stranded Conformation Polymorphism (PCR-SSCP) for the 3 exons of the gene. Suspected samples were checked by sequencing reaction for the presence of any gene variation.

Results:

We have not observed any mutation in these 3 exons. Based on data from the present study, We conclude that *PML* gene mutations have a very low contribution to gastric adenocarcinoma in patients in Tehran, Sistan va Baloochestan, Fars, Kashan, Mazandaran, provinces and are not of great clinical importance in these regions. However the more investigation is recommended in other parts of gene, tribes and different population throught country. More research will clarify the role of this gene and its relation with gastric adenocarcinoma and provide essential information about the role of this gene in proceeding gastric adenocarcinoma and at designing therapeutic strategies at the basisofthegene.

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Mutations screening in 1, 5 and 9 exons of *PML* gene in patients affected with Gastric Adenocarcinoma using PCR-SSCP

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