



31C/G polymorphism in survivin gene promoter is associated with the risk of gastric cancer

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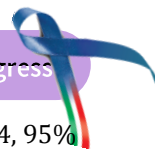
Abstract

Introduction: Gastric cancer is the most common cancers in the world. It is the fourth most common cancer and the second leading cause of cancer deaths worldwide. The survivin gene which encodes an apoptosis protein inhibitor plays an important role in maintenance and integrity of the gastric mucosa. The gene is necessary for the normal physiologic function of the stomach, but its expression increases in gastric cancer.

Aim: Regarding role of polymorphisms of the promoter region in genes expression, in the present study, the association of single- nucleotide polymorphism (rs9904341) - 31C/G in promoter survivin gene with risk of gastric cancers is investigated.

Methods: In this study, 101 patients with gastric cancer and 101 healthy subjects as the control (all matched in terms of age and gender) were examined by PCR-RFLP technique. The obtained data and information were analyzed by statistical regression logistic and χ^2 testes.

Results: Our results showed that genotype CC increase the risk of gastric cancer up to 2.4 folds (CI = 1.03-5.61, P = 0.04) and allele C, as risk allele, increase the risk of gastric cancer up to 1.5 folds significantly (CI = 1.02-2.30, P = 0.03). Also, CC + GC



genotypes increase the risk of diffuse type of gastric cancer by 4.4-fold (OR = 4.4, 95% CI = 1.30–15.10, P = 0.01).

Conclusion: The Regarding to previous data that showed increase of survivin genes expression in present allele C in -31G/C of promoter region and assessment of genotype CC risk of gastric cancer in this study the result seems logical.

Key words: Survivin gene- apoptosis inhibitor- gastric cancer- single- nucleotide polymorphism- rs9904341.