Research no. [٧]

Association between Rs1859168/ HOTTIP expression level and Colorectal Cancer& Adenomatous polyposis risk in Egyptians

By

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Type of research: Single research
Published in: Journal of Interferon and Cytokine Research Volume 40, Number 6, 2020

Abstract

Background: LncRNA HOTTIP is a new lncRNA that is strictly linked to the susceptibility, growth, propagation, and prognosis of several human cancers together with colorectal cancer. LncRNA HOTTIP rs1859168 may be confer colorectal cancer susceptibility through regulating its gene expression level.**Subjects and Methods:** To elucidate its role in colorectal cancer risk; we genotyped rs1859168 A>C and measured serum HOTTIP expression level in colorectal cancer, adenomatous polyposis patients and controls by RT-PCR.**Results:** The results displayed that rs1859168 A>C SNP is a risk factor for colorectal cancer among adenomatous polyposis patients and controls, AC vs. CC genotypes (adjusted OR = 2.256, 95% CI = 1.316-3.868, *P* = 0.003) when compared to controls and (adjusted OR = 9.521, 95% CI = 3.330-27.217, *P* < 0.0001) when compared to adenomatous polyposis. Upregulated serum HOTTIP in colorectal cancer group when compared with adenomatous polyposis or controls [median (IQR) = 3.64 (2.46-5.02) (*P* < 0.0001)]. A significant difference in serum HOTTIP was found to be associated with different rs1859168 genotypes. Rs1859168 A>C and higher serum HOTTIP were significantly associated with distant metastasis, lymph nodes metastasis, and grade III of colorectal cancer. **Conclusions:** Both rs8159168 and high HOTTIP confer increased risk for colorectal cancer development.