Abstract

Breast cancer is considered as the main cause of cancer mortality in the women aged 20 to 59 years. MicroRNAs (miRNAs) regulate gene expression in post-transcriptional level and are highly expressed in malignancies including breast cancer. The role of miRNAs in pathogenesis of breast cancer is not fully understood. In the present study, for the first time the impact of hsa-mir-423 rs6505162 on breast cancer risk was investigated in the Iranian population. 153 patients with pathologically confirmed breast cancer and 153 controls were genotyped and the association of clinical characteristics of the patients and hsa-mir-423 rs6505162 genotypes were analyzed. The findings indicated that the CC genotype of hsa-mir-423 rs6505162 was associated with the increased risk of breast cancer, odds ratio (OR) = 2.37, 95% confidence interval (CI)= 1.29–4.35, and P= 0.0023, CC vs AA). The data suggested that hsa-mir-423 rs6505162 could be considered as a novel risk factor in breast cancer pathogenesis in the Iranian population.

Key words: Breast cancer, MicroRNA, hsa-mir-423, rs6505162
M.Sc. Thesis

Association analysis of single nucleotide polymorphism (SNP) located in the coding region of MiR-423 gene with Breast Cancer

Supervisors
Dr. gholamreza motalleb
Prof. Sadeq Vallian Borujeni

By
Nadia pourmoshir

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