عنوان مقاله:

Methylation Analysis of 5’UTR Promoter Region of DBC2 as a Biomarker in the Peripheral Bloods of Some Iranian Women with Sporadic Breast Cancer

محل انتشار:

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خلاصه مقاله:

Background and Objective: The DBC2 (deleted in breast cancer 2) or RhoBTB2 (Located on 8p21) is a tumor suppressor gene associated with tumorigenesis. Mutational studies of DBC2 at its promoter region in breast cancer revealed an important role for epigenetic changes contributing to its low expression. Epigenetic changes through hypermethylation of the promoter can cause the inactivation of DBC2 gene. The purpose of this study was to investigate methylation pattern of DBC2 gene in the peripheral blood of 40 Iranian women with breast cancer and its comparison with healthy women.Material & Methods: We used peripheral blood samples from 40 patients with sporadic breast cancer and 40 normal individuals. Analysis of the methylation statues of DBC2 promoter region was done by MSP (Methylation Specific PCR) technique on the DNA extracted from the blood samples. The results were validated by sequencing. The methylation status was then correlated with the clinicopathological parameters of breast cancer patients.Results: Methylation pattern was detected in 60% of the patients, whereas 25% of the normal individuals demonstrated a positive methylation pattern (P ≤ 0.01, odd ratio : 2.143). No significant correlation was obtained between methylated DBC2 and cliniclpathological parameters.Conclusion: Aberrant hypermethylation was observed preferentially in the patients. These findings along with the previous studies, propose that abnormal methylation pattern in DBC2 promoter region may be one of the main reasons for low expression of DBC2 in breast cancer and this hypermethylation pattern could play a fundamental role in the breast tumorigenesis.

کلمات کلیدی:

Breast Cancer, Methylation, DBC2 Protein,Women, Iran