عنوان مقاله:

O۶-Methylguanine-DNA Methyltransferase and ATP-Binding Cassette Membrane Transporter G۲ Promotor ?Methylation: Can Predict the Response to Chemotherapy in Advanced Breast Cancer

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خلاصه مقاله:

Background: ATP-binding cassette membrane transporter G۲ (ABCG۲) gene is one of transporter family and well characterized for their association with chemoresistance. Promoter methylation is a mechanism for regulation of gene expression. O۶-Methyl guanine DNA methyl transferase (MGMT) gene plays a fundamental role in DNA repair. MGMT has the ability to remove alkyl adducts from DNA at the O۶ position of guanine. Alkylating agents exert their function through adding these alkyls adducts to DNA leading to cell death unless it is repaired by MGMT. MGMT promoter was found to be methylated in several malignancies. The aim of the present work is to study the relation of MGMT and ABCG۲ promoter methylation status in advanced breast cancer patients to response to cyclophosphamide–doxorubicin (AC) based therapeutic regime. Methods: This retrospective study included Forty-two female patients with advanced breast cancer assessed before receiving chemotherapy and after the completion of regimens. They were grouped into responders and non-responders according to RECIST criteria. Methylation analysis of MGMT and ABCG۲ genes were performed on breast cancer tissues. Results: MGMT promoter was methylated in ۴۰.۵% of the cases. ABCG۲ promoter was methylated in ۱۴.۳% of cases. There was no statistically significant association between MGMT and ABCG۲ promoter methylation status and clinicopathological parameters. There was statistically significant association between methylation status of both promoters and response to AC when followed by Taxane. Conclusions: Methylation of MGMT and ABCG۲ promoters combined could be a potential predictive factor for .response to cyclophosphamide-doxorubicin based therapeutic regime

کلمات کلیدی:

.ABCG۲, Breast cancer, Chemoresistance, DNA methylation, MGMT

لینک ثابت مقاله در پایگاه سیویلیکا: