4th International Conference on Molecular Medicine and Diagnostics
26th Cancer Genomics Congress: New Era for Cancer Prevention
&
International Conference on Biomarkers and Clinical Research
July 15-16, 2019 Abu Dhabi, UAE

Glutathione S-Transferase Gene Polymorphism and Breast Cancer Risk In Egyptian Women

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Background: Breast carcinoma is a leading cause of malignancy-related death. In Egypt, it is the most common cancer among females. There are many factors involved in breast cancer development, such as longtime exposure of estrogen, high intake of polyunsaturated fatty acids and genetic factors. Glutathione S-transferase (GST) enzymes play a role in the detoxification of drugs and carcinogens. It may be important in cancers susceptibility.

Objectives: This study aimed to determine the association of polymorphisms of GST (P1 and A1) genes and the development of breast cancer in Egyptian patients.

Patients and Methods: One hundred females with breast cancer and 100 healthy females were included as the control group. Polymorphisms of GSTP1 at codon 105 (Ile105Val) and GSTA1 at -69C/T were determined by RFLP-PCR.

Results: The results of the present study demonstrated that there was statistically higher frequency of the AG genotype of GSTP1 gene in patients with breast cancer than the controls group [P =0.004, OR (95% CI) = 2.38(1.3-4.3)]. Regarding GSTA1 gene polymorphism, the CT and TT genotypes were more prevalent in breast cancer patients compared to the controls [(P =0.004, OR (95% CI) = 0.4(0.2-0.7)].

Conclusions: The GSTP1 and GSTA1 polymorphisms may confer susceptibility to breast cancer and thus genotyping of GSTP1 & A1 may be used in predicting breast cancer.

Biography

Yasser M. Saleh dis his M.B, B.Ch (Bachelor Degree) in Medicine and Surgery, Faculty of Medicine, Mansoura University, Mansoura, Egypt, and also completed his M. Sc. and MD. Degrees in Clinical Oncology and Nuclear Medicine, Faculty of Medicine, Mansoura University. He is currently working as Assistant Professor at Clinical Oncology and Nuclear Medicine dept., Faculty of Medicine, Mansoura University.

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