

TOX3 rs3803662 POLYMORPHISM IS ASSOCIATED WITH BREAST CANCER PROTECTION IN NORTHEASTERN MEXICAN WOMAN.

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Introduction: Low penetrance genes are involved in breast cancer (BC) and confer risk for the development of this neoplasia. Different single nucleotide polymorphisms (SNPs) associated with BC have been identified, such as rs3803662 (TOX3), which is related to estrogen receptors in European and African-American women. The contribution of this variant in the Mexican population is unknown. The objective of this study was to evaluate, through a case-control design, the association of the SNP rs3803662 (TOX3), with the risk of BC in women from northeastern Mexico.

Methods: We included 434 cases and 228 controls. Genotyping was carried out using RFLPs. The SPSS 7.0 statistical program was used to determine the gene frequencies, the estimation of the relative risk (Odds ratio [OR]), and the Hardy-Weinberg equilibrium (EHW).

Results: The homocygote (T/T) genotype of the SNP TOX3 rs3803662 was identified as a protective allele for BC (OR: 0.47, 95% CI: 0.29 - 0.78).

Conclusions; The T allele of the SNP rs3803662 can be considered as a protective factor for BC from northeastern Mexico women.

Keywords: breast cancer, TOX3, rs3803662, Mexico, polymorphisms.