



# Association between *MTHFR* 677C/T and 1298A/C gene polymorphisms and breast cancer risk

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**ABSTRACT.** We performed a case-control study to investigate the association between single nucleotide polymorphisms in the *MTHFR* gene (677C/T and 1298A/C) and risk of breast cancer. This case-control study included 216 breast cancer cases and 216 controls. The *MTHFR* 677C/T and 1298A/C gene polymorphisms were assessed by polymerase chain reaction restriction fragment length polymorphism. We observed an increased likelihood of breast cancer patients having a higher age at menarche and first live birth, and a greater family history of breast cancer, especially among first-degree relatives. In addition, individuals with the TT genotype of *MTHFR* 677C/T were associated with increased risk of breast cancer by logistic regression analysis; the adjusted odds ratio (95%CI) was 3.05 (1.17-8.87). In conclusion, the results of our study indicated that the *MTHFR* C677T gene polymorphism could play a role in the development of breast cancer.

**Key words:** MTHFR; Polymorphism; Breast cancer; Risk