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DNMT3A -448A>G polymorphism and cancer risk: a meta-analysis

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ABSTRACT. Cancer is a major public health problem worldwide that involves complex processes and factors. For instance, methylation is important in tumorigenesis. DNA (cytosine-5)-methyltransferase 3A (DNMT3A) is the main *de novo* methyltransferase implicated in this process. In *DNMT3A*, the -448A>G polymorphism is associated with cancer; however, the results of various studies have been conflicting. To clarify the role of *DNMT3A* polymorphisms in cancer, we conducted a meta-analysis of 2014 cases and 3089 control subjects. Odds ratios with 95% confidence intervals were estimated to evaluate the association between the *DNMT3A* -448A>G polymorphism and cancer risk. The results showed that DNMT3A may be a protective factor against all cancer types and colorectal cancer groups. Further studies should be conducted including different ethnicities and large population sizes to generate a comprehensive conclusion.

Key words: Cancer; DNA (cytosine-5)-methyltransferase 3A; Meta-analysis; Single nucleotide polymorphism

