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Association between methionine synthase reductase A66G polymorphism and primary infertility in Chinese males

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ABSTRACT. We examined the association between the methionine synthase reductase (*MTRR* A66G), methylenetetrahydrofolate reductase (*MTHFR* C677T and A1298C), and methionine synthase (*MS* A2756G) genotypes and non-obstructive male infertility in a Chinese population. This case-control study included 162 infertile Chinese patients with azoospermia (N = 100) or oligoasthenozoospermia (N = 62) and 120 fertile men as controls. The polymorphisms *MTRR* A66G, *MTHFR* C677T, A1298C, and *MS* A2756G were identified by direct DNA sequencing and the results were statistically analyzed. We found no association between the incidence of any of these variants in azoospermia patients and control populations. The frequency of the *MTRR*66 polymorphic genotypes (AG, AG+GG) was significantly higher in the oligoasthenozoospermia group compared to the controls

(P = 0.013, 0.012). Our findings revealed an association between the single-nucleotide polymorphism A66G in the *MTRR* gene and male infertility, particularly in oligoasthenozoospermia males, suggesting that this polymorphism is a genetic risk factor for male infertility in Chinese men.

Key words: Male infertility; Methionine synthase reductase; Methylenetetrahydrofolate reductase; Methionine synthase; Single-nucleotide polymorphism

