

Methylenetetrahydrofolate reductase C677T polymorphism and schizophrenia: Effect of molecular change

Sir,
Schizophrenia is an important psychological disorder. There are many reports on the underlying medical and genetic underlying factors of schizophrenia. Malhotra *et al.* recently noted that “*there is some evidence to suggest an association of MetS with adiponectin levels, hematological indices, methylenetetrahydrofolate reductase (MTHFR), and Alpha-1A adrenergic receptor gene.*”^[1] Focusing on MTHFR, Yadav *et al.* performed meta-analysis study and suggested that “*the MTHFR C677T polymorphism is a risk factor for schizophrenia.*”^[2] Here, the authors would like to discuss on the effect of MTHFR C677T polymorphism based on basic consideration on nanomolecular weight change. Theoretically, the molecule with polymorphism will have altered molecular weight that might affect the biological process. Using the quantum calculation technique as previously reported in the previous publications,^[3-5] it can be seen that the C677T polymorphism has a lower molecular weight than wild-type (decreased mass = 2). Per one molecule, the decreased molecular weight in the mutated polymorphism will result in a less mass of final biochemical product comparing to naïve type. Indeed, this finding is concordant with a previous observation that MTHFR deficit could induce schizophrenia.^[6] The important key message is the decreased molecular mass in C677T polymorphism can imply reduced MTHFR activity that can be an explanation for the observed relationship to schizophrenia.

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Conflicts of interest

There are no conflicts of interest.

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