Abstract

It is suggested that hyperuricemia is a marker of cardiovascular risk in human adults with metabolic syndrome (MS). The C677T polymorphism in the gene encoding the enzyme methylenetetrahydrofolate reductase (MTHFR) is associated with hyperuricemia. Data on factors associated with uricemia in human adults with MS genotyped for this polymorphism are lacking. We aimed to investigate the factors associated with uricemia in human adults with MS genotyped for the C677T polymorphism in the MTHFR gene. Cross-sectional study was conducted with 63 human adults (24 men and 39 women) with MS. Body weight, body mass index, waist circumference, body fat, glycemia, lipid profile, uricemia, insulinemia, homocysteinemia, plasma folate, erythrocyte folate, blood pressure, smoking, diuretics use, usual dietary alcohol and protein intakes, MTHFR and the presence of the C677T polymorphism in the gene were assessed. Hyperuricemia was observed in 16 (25.4%) human adults (10 men and 6 women). In the group, 33% (n = 21) showed the C677T polymorphism, being 19 heterozygous and 2 mutant homozygous. A significant association between hyperuricemia and C677T polymorphism was not verified. Uricemia was positively associated with homocysteinemia (r = 0.43, p < 0.05), triglyceridemia (r = 0.41, p<0.05), serum concentrations of very-low-density lipoprotein (r = 0.27, p< 0.05) and the habitual alcohol intake (r = 0.37, p < 0.05). However, only homocysteinemia, triglyceridemia, and habitual alcohol intake remained in the final model of linear regression. In human adults with MS geno-typed for the C677T polymorphism in the MTHFR gene, uricemia was positively associated with homocysteinemia, triglyceridemia and the habitual alcohol intake.

Keywords

Uricemia, Metabolic syndrome, Cardiovascular disease, C677T polymorphism in the MTHFR gene.