中文題目：在台灣青少年族群中 GCKR 基因變異與血中尿酸濃度的相關性

英文題目：Association of genetic variants of Glucokinase regulator (GCKR) gene and serum uric acid concentration in Taiwanese adolescence

作　　者：謝昌勳

服務單位：[1]三軍總醫院新陳代謝科

Background: Recent genome-wide association studies demonstrated the positive association between hyperuricemia and variants of glucokinase regulator *(GCKR)* gene. We replicated this genetic association in Taiwan adolescent population.

Methods: The frequency of different genotypes or alleles of the *GCKR* rs780094 and rs1260326 single-nucleotide polymorphism (SNP) were compared between 962 subjects (468 boys, 497 girls) with hyperuricemia (HUA) and normal uric acid (NUA) levels with gender specification. Logistic regression analysis was carried out to explore the genetic role on abnormal UA concentrations.

Results: The boys had higher UA levels than the girls (6.68±1.85 and 5.23±1.08 mg/dl, respectively, $p<0.001$). Except for T allele had higher frequency of HUA than C allele in both SNPs in girl population, the rest of the frequencies of alleles and genotypes did not different between subjects with HUA and NUA groups in both genders. However, after adjusting for confounding factors, the odds ratio for hyperuricemia incidence in TT genotype carriers was 1.75 (95% confidence interval [CI]: 1.02 to 3.00) than C-carried genotype in rs1260326 of girl population.

Conclusions: The *GCKR* rs1260326 polymorphism is associated with higher UA concentrations in Taiwanese girl adolescents.

Key words: Hyperuricemia, glucokinase regulator, Taiwan, adolescent.