中文題目：血清尿酸與健康個體發生代謝症候群為劑量反應
英文題目：The Dose-Response Effect of Serum Uric Acid on the Incidence of Metabolic Syndrome in Apparently Healthy Individuals
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Background：Serum uric acid (SUA) has inflammatory and atherosclerotic properties and produces insulin resistance, thereby associating with an increased risk of metabolic syndrome (MetS). We also reported the association between hyperuricemia (HUA) and MetS in the previous study, but limited evidence investigate the dose-response effect of serum uric acid (SUA) on the incidence of MetS.

Methods：We firstly established the association between SUA and the prevalence of MetS in 2016. Then we enrolled individuals who underwent the annual health exam again at our hospital between January 1, 2017 and July 31, 2017; we excluded the individuals who already had MetS in 2016. The study end point was new-onset MetS in 2017. Based on the Taiwan criteria, MetS must fulfill at least three of the five following criteria: 1) waist circumference more than 90 cm in men or more than 80 cm in women; 2) blood pressure of more than 130 / 85 mm Hg; 3) fasting glucose of 100 mg/dl or more; 4) triglyceride of 150 mg/dl or more; 5) high-density lipoprotein cholesterol of 40 mg/dl or less in men or 50 mg/dl or less in women. Hyperuricemia is defined as a serum uric acid level of 7 mg/dl or more in men or 6 mg/dl or more in females,

Results：The overall study population consisted of 18,932 individuals in 2016. The prevalence of MetS was 9.4%. SUA was independently associated with prevalent MetS (adjusted OR: 1.075, 95% CI 1.014-1.140, P = 0.016). Of these individuals, the 4,831 persons received the repetitive exam in 2017. The HUA group (n = 1,284) had more males compared with the NUA group (n = 3,547)(97.3% vs. 82%, P<0.001). The values for waist circumference, body mass index, systolic and diastolic blood pressure, fasting glucose, lipid profile, creatinine, and alanine transaminase were significantly different except for age. The incidences of MetS were 15.6% and 6.6% in the HUA group and in the NUA group (P < 0.001.) In a univariate logistic regression analysis, SUA showed the dose-response effect on incident MetS (crude OR: 1.595, 95% CI 1.483-1.715). After adjustment for all confounders, SUA remained associated with incident MetS (adjusted OR: 1.275, 1.162-1.400, P < 0.001).

Conclusion：We reported the dose-response effect of SUA on the both prevalence and incidence of MetS.