

中文題目：血清尿酸升高會增加健康族群罹患高血壓之風險

英文題目：Elevated Serum Uric Acid Associated with Incident Hypertension in Healthy Individuals

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Background

Elevated serum uric acid (SUA) induces endothelial dysfunction and is associated with hypertension according to the traditional definition of hypertension. The impact of a divergent definition of hypertension between contemporary guidelines is unclear.

Purpose

We conducted the present study to investigate the association between SUA and new-onset hypertension according to contemporary blood pressure guidelines.

Methods

We enrolled 10,537 healthy individuals aged more than 30 years, who routinely underwent an annual health exam with office blood pressure records at our hospital in 2016; of them, 7,349 individuals repeated the exam in 2017. The individuals with hypertension at baseline were excluded, and the rest of study population were divided into the European Society of Cardiology (ESC) cohort and the American College of Cardiology (ACC) cohort. According to the ESC guideline, hypertension was defined as office BP $\geq 140/90$ mm Hg, whereas ACC guidelines defined hypertension as blood pressure $\geq 130/80$ mm Hg. Hyperuricemia (HUA) is defined as an SUA level of ≥ 7 mg/dl in men and ≥ 6 mg/dl in women.

Results

The study population consisted of 6,378 individuals in the ESC cohort and 4,330 individuals in the ACC cohort. The HUA group was predominant male and older than the normouricemic group and had a greater ratio of alcohol intake and histories of gout, and greater values of laboratory cardiometabolic biomarker values. The incidence of hypertension was 5.8% in the ESC cohort and 19% in the ACC cohort. Incident hypertension was significantly greater in the HUA vs. normouricemic group (8.6% vs. 4.7%, $P < 0.001$ for ESC and 25.5% vs. 16.9%, $P < 0.001$ for ACC). In multivariate logistic regression analyses, each increment of SUA was associated with increased risks of incident hypertension after age, gender, body mass index, blood pressure at baseline, fasting glucose were adjusted (OR:1.160, 95% CI: 1.056-1.274, $P = 0.002$ for ESC and OR:1.120, 95% CI: 1.040-1.207, $P = 0.031$ for ACC).

Conclusion

Elevated SUA was associated with incident hypertension in the healthy individuals from Taiwan regarding various contemporary blood pressure guidelines. Future

studies might investigate the effect of urate-lowering therapy on lowering blood pressure.