

中文題目：健康人血清尿酸升高與心電圖及心臟超音波左心室肥厚之相關性
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英文題目：Elevated serum uric acid associated with echocardiographic left ventricular hypertrophy independent of blood pressure in healthy individuals

Background

Elevated serum uric acid (SUA) is associated with cardiac fibrosis and hypertrophy. Growing body of evidence showed the positive correlation between hyperuricemia (HUA) and electrocardiographic left ventricular hypertrophy(LVH). We conducted this study to concomitantly investigate the association between SUA and electrocardiographic and echocardiographic LVH.

Methods

We initially enrolled 17,913 healthy individuals, who routinely underwent an annual health exam at our hospital between 2016/1/1~2016/12/31. Of them, 367 individuals received transthoracic echocardiography. HUA is defined as an SUA level of ≥ 7 mg/dl in men and ≥ 6 mg/dl in women. Electrocardiographic LVH is defined by the criteria of Cornell voltage and product and Sokolow-Lyon and the Minnesota Code ECG classification. Echocardiographic LVH is defined by LV mass index ≥ 115 g/m² in men or ≥ 95 g/m² in women.

Results

The HUA vs. normouricemic group was older and predominant male with greater values of body mass index, systolic and diastolic blood pressure and lipid profiles. Lifestyle choices and histories of chronic disease were comparable in the two groups except for a greater ratio of alcohol intake in the HUA group. The prevalence of electrocardiographic and echocardiographic LVH was greater in the HUA group than the normouricemic group (16.5% vs. 7.5%, $P=0.02$ for echocardiographic LVH). In multivariate logistic regression analyses, elevated SUA was still associated with the study outcomes after the confounders were adjusted (OR: 1.49, 95% CI 1.12-1.98, $P < 0.01$ for echocardiographic LVH), including age, male gender, body mass index, systolic and diastolic blood pressure and alcohol intake.

Conclusion

Elevated SUA is independently associated with the prevalence of electrocardiographic and echocardiographic LVH in the healthy individuals from Taiwan. Future studies might evaluate urate-lowering effects on the regression of LVH.