

KSN 2017 Abstract

KSN-17-O096

Asymptomatic hyperuricemia is independently associated with coronary artery calcification in the absence of overt coronary artery disease: A single-center cross-sectional study

Kwon soo JUNG, Donghwan OH, Seok-hyung KIM, Ah ran CHOI, Hoon young CHOI, Hyeong cheon PARK, *Hyunwook KIM

Internal Medicine, Gangnam Severance Hospital, Korea, South

Objectives : Recently, the pathogenic role of uric acid (UA) in both systemic metabolic and atherosclerotic diseases has been investigated. We sought to determine the independent correlation between serum UA levels and coronary artery calcification, as a marker of subclinical atherosclerosis

Methods : Total of 4188 individuals without prior coronary artery disease or urate-deposition disease were included. All of the participants underwent multi-detector computed tomography (MDCT) for the evaluation of coronary artery calcification (CAC) during their health check-ups

Results : The subjects were divided into three groups according to CAC scores (group 1: 0; group 2: 1-299; group 3: ≥ 300). After controlling for other confounders, serum UA levels were found to be positively associated with increasing CAC scores ($P= 0.001$). Adjusted mean serum UA levels in each CAC group were estimated to be 5.2 ± 0.1 mg/dl, 5.3 ± 0.1 mg/dl, and 5.6 ± 0.2 mg/dl from groups 1, 2 and 3, respectively. Subsequent subgroup analyses revealed that this positive association was only significant in participants who were male, relatively older, less overweight, and did not have diabetes mellitus (DM), hypertension, smoking history, or renal dysfunction

Conclusions : In conclusion, serum uric acid levels were independently associated with CAC score severity and this finding is particularly relevant to the subjects who were male, relatively older, less overweight (body mass index < 25 kg/m²), and without a history of DM, hypertension, smoking, or renal dysfunction

Keywords : coronary artery calcification; uric acid; multi-detector computed tomography