

&lt;S14-2&gt;

## Elevated Serum Uric Acid Predicts the Development of Moderate Coronary Artery Calcification Independent of Conventional Cardiovascular Risk Factors

Jae Hyeon Kim  
Sungkyunkwan University, Korea

Hyperuricemia was frequently noted in subjects with a high risk of cardiovascular disease (CVD). We wanted to elucidate whether serum uric acid (SUA) is associated with development of moderate coronary artery calcification in generally healthy adults.

A total of 9297 subjects underwent multidetector CT for the evaluation of CAC at least two times during their annual health examinations. Among them, 4461 participants without CVD history and who had no (scores 0) or minimal CAC (scores  $1e10$ ) in their first examination were enrolled. The association between SUA as a continuous and categorical variable and development of moderate coronary artery calcification (CAC score  $> 100$ ) was assessed by Cox regression analysis. Receiver-operating characteristic (ROC) curves were constructed to investigate the diagnostic efficacy of SUA.

During a median follow-up of 4.1 years, 131 incident cases of moderate calcification developed. Baseline SUA concentration was significantly higher in subjects with progression to moderate coronary artery calcification ( $6.6 \pm 1.3$  vs.  $5.8 \pm 1.3$  mg/dL,  $p < 0.001$ ). SUA as a continuous variable (per 1 mg/dL) and divided into quartiles was positively associated with a higher risk of development of moderate calcification after adjustment for conventional CVD risk factors. The addition of SUA to the conventional CVD risk factors improved the predictive power for development of moderate coronary artery calcification.

In conclusion, SUA was an independent predictor for development of moderate coronary artery calcification in subjects with no or minimal calcification.