KSN 2017 Abstract

KSN-17-P229

Association of apolipoprotein A1 and B with coronary calcification and chronic kidney disease in the Big Data

Seok-hyung KIM, Dong hwan OH, Kwon soo JUNG, Hyunwook KIM, Hyeong cheon PARK, *Hoon young CHOI

Department of Internal Medicine, Gangnam Severance Hospital, Yonsei University College of Medicine, Korea,South

Objectives : Apolipoprotein B/A1 ratio was shown to be one of the strongest risk predictors for cardiovascular events. However, apolipoproteins has been still uncertain for their prognostic information for cardiovascular disease (CVD). The quantity of coronary artery calcification correlates with the atherosclerotic plaque burden, with an increased quantity indicating a substantially increased risk of cardiovascular events. This study aimed to investigate the apolipoprotein B/A1 ratio associated with coronary artery calcification (CAC) in patients with or without chronic kidney disease (CKD).

Methods : . Data from a total of 9,297 participants were provided by the Big Data of Gangnam Severance Checkup from 2005 through 2016. Participants were excluded if they have a history of hypertension, diabetes mellitus, and CVD. CAC score was measured with computed tomography. Estimated glomerular filtration rate (eGFR) of less than 60 was defined as CKD.

Results : The mean CAC level was significantly higher in the participants with CKD than the participants without CKD, but apolipoprotein B/A1 ratio was not different. After adjusting for age, gender, SBP, BMI, eGFR, fasting plasma glucose, HDL-cholesterol, and LDL-cholesterol, apolipoprotein B/A1 ratio was significantly associated with increased risk of CAC in the participants without CKD (OR=2.884, p=0.019), while in the participants with CKD, apolipoprotein B/A1 ratio was not associated with CAC.

Conclusions : Our study showed that apolipoprotein B/A1 ratio was associated with CAC in the participants without CKD, not in CKD.

Keywords : Chronic kidney disease, coronary artery calcification, apolipoprotein B/A1 ratio