Abstract

Triglyceride to high-density lipoprotein cholesterol (TG/HDL-C) ratio is an independent risk index of cardiovascular events. The aim of this study was to evaluate the association between TG/HDL-C ratio and coronary plaque characteristics that increase the likelihood of cardiovascular events as determined by coronary computed tomography angiography (CCTA). A total of 935 patients (mean age; 64 years, men; 55 %) who underwent CCTA for suspected coronary artery disease (CAD) were included. High-risk plaques (HRP) were defined by three characteristics: positive remodeling; low-density plaques; and spotty calcification. Significant stenosis was defined as a luminal narrowing of >70%. Patients with higher TG/HDL-C ratio showed significantly greater prevalence of HRP and significant stenosis compared with patients with low TG/HDL-C ratio (p<0.01, respectively). The multivariate logistic analysis demonstrated that TG/HDL-C ratio significantly associated with the presence of HRP (p<0.01), but not significant coronary stenosis (p=0.24). During the median follow-up period of 4.1 years, 78 cardiovascular occurred. the highest tertile of TG/HDL-C was associated with cardiovascular events with the lowest TG/HDL-C tertile as the reference (hazard ratio, 2.28; 95% confidence interval, 1.18-4.36). A high TG/HDL-C ratio was associated with the presence of CCT-verified HRP, which can lead to cardiovascular events in patients with suspected CAD.