PROGNOSTIC IMPLICATION OF EPICARDIAL AND PERICARDIAL FAT ACUTELY AFTER MYOCARDIAL INFARCTION

Poster Contributions
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Background: Recent studies have shown that increased accumulation of fat around the heart, i.e. epicardial adipose tissue (EPI) and pericardial adipose tissue (PERI), is associated with cardiovascular disease and metabolic disease. However, which cardiac fat is more appropriate for cardiovascular risk stratification has not been validated. Therefore, the purpose of this study was to determine the prognostic value of EPI and PERI for predicting cardiovascular events after acute myocardial infarction (AMI).

Methods: A total of 153 consecutive patients with acute myocardial infarction who underwent primary percutaneous coronary intervention were included in this study. EPI and PERI diameters were measured by echocardiography using parasternal long-axis and short-axis views when discharge. The ability of each parameter to determine the primary end point (cardiac death, heart failure, acute coronary syndrome and stroke) was assessed.

Results: Follow up was completed in for 139 of 153 patients at 698 ± 355 days after discharge. There were 22 patients with the primary endpoint. EPI diameter was larger and PERI diameter was smaller in those with cardiovascular events than those without (EPI 6.7 ± 0.9 vs. 4.8 ± 1.1mm, PERI 3.7 ± 0.9 vs 4.1 ± 1.2mm). On univariate analysis, age, left ventricular (LV) ejection fraction, end-systolic LV volume, EPI diameter, and EPI/PERI diameter ratio were significant predictor. In multivariate analysis, only EPI/PERI diameter ratio was an independent predictor for the cardiovascular events in this population (hazard ratio 328.9, 95% confidence interval 2.8 to 3800.4, p = 0.017).

Conclusion: A new index, a ratio of epicardial and pericardial fat diameter, allowed the identification of patients at higher risk of the cardiovascular events in patients with AMI.