The Relationship between GRACE Score and Epicardial Fat Thickness in non-STEMI Patients

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To the Editor,

I have read the article entitled "The Relationship between GRACE Score and Epicardial Fat Thickness in non-STEMI Patients" by Gul et al.[1] with great interest. The investigators reported that the GRACE score (GS) showed a positive correlation with end-systolic Epicardial Fat Thickness (EFT) and end-diastolic EFT,[1] and also statistical evaluations demonstrated a better correlation between the GS and end-diastolic EFT compared to end-systolic EFT.[1]

Epicardial adipose tissue has the same origin as visceral adipose tissue. Epicardial adipose tissue is known to have endocrine and metabolic activity functions. Secretion of inflammatory cytokines and release of bioactive molecules via EFT may trigger coronary atherosclerosis.[2,3]

Evaluation of EFT via echocardiography has several advantages, such as lower cost, easily accessibility, and good reproducibility. However, to evaluate EFT by echocardiography is restricted due to insufficient knowledge in this area.[4] In the present study, EFT was measured in the parasternal long axis view at the end-systole and end-diastole in three cardiac cycles. Echocardiographic evaluation of EFT might not be the optimal alternative for quantification of epicardial tissue. The gold standard in evaluating EFT is magnetic resonance imaging (MRI); the lack of MRI use constitutes a limitation of this study. EFT has a 3-dimensional distribution and two-dimensional echocardiography does not allow viewing all cardiac structures.[5]

Although EFT is closely related to coronary artery disease, there are scarce data about the follow-up of EFT in patients with coronary artery disease in the literature.

Considering this point of view, further studies are needed to assess EFT follow-up in patients with coronary artery disease.

Keywords

Acute Coronary Syndrome; Adipose Tissue; Echocardiography; Pericardium; Grace Score.

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Reply

Dear Editor

Visceral adipose tissue is known to have endocrine and metabolic activity functions. Epicardial fat tissue is part of the visceral adipose tissue located between the heart and pericardium, particularly in the atrioventricular and interventricular grooves, lateral wall of the right ventricle, and around the coronary arteries.[1-3] The importance of epicardial fat thickness (EFT) has been demonstrated by the growing amount of supportive data in recent years. Increased EFT is associated with hypertension, insulin resistance and inflammatory processes such as diabetes mellitus and metabolic syndrome.[1-4] As a result of the studies investigating the relationship between EFT and coronary artery disease (CAD), EFT was associated with severity and burden of CAD.[5-7]

EFT can be measured by transthoracic echocardiography, computed tomography, and magnetic resonance imaging (MRI) methods. Evaluation by transthoracic echocardiography has come to the forefront because of many advantages, such as easy availability, low cost, no radiation exposure, rapidness, and reproducibility. EFT measurement by echocardiography was first defined by Iacobellis et al.[8] By this method, they determined that EFT measurements are correlated with MRI measurements and confirmed the accuracy of measurements by echocardiography. Further studies began to measure EFT considering this method, which was recommended by Iacobellis et al.,[8] as the reference. For EFT measurement, the individual is placed in the left lateral decubitus position, and an optimal parasternal long-axis view is tried to be obtained through the left sternal 2-3 intercostal space. Interventricular septum and particularly the aortic root are considered as the reference points for the measurement from the parasternal long-axis view. Taking the aortic root as the reference, measurement is made by putting the right ventricular free wall and the aortic annulus in the midline of ultrasound waves.[8-13]

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