

## Letter to the Editor

## Editöre Mektup

**Relationship between epicardial fat thickness and hypertension**

Dear Editor,

We read with interest the article “Epicardial fat thickness associated with left ventricular myocardial performance in patients with newly diagnosed hypertension” by Börekçi et al.<sup>[1]</sup> The authors investigated the relationship between epicardial fat thickness (EFT) and tissue Doppler myocardial performance index, which incorporates both systolic and diastolic left ventricular functions, in patients with newly diagnosed hypertension (HT). It was concluded that tissue Doppler myocardial performance index was independently associated with EFT in patients with newly diagnosed HT. EFT may be used as a predictor of impaired left ventricular global functions in patients with normal left ventricular ejection fraction and newly diagnosed HT. We would like to thank the authors for their valuable contribution in a study that was efficiently designed and well-documented.

Cardiovascular diseases comprise the most important factor associated with higher morbidity and mortality rates in HT patients, and early diagnosis of HT is important in clinical practice. However, certain conditions can influence blood pressure, including patient lifestyle, salt intake, smoking, alcohol use, and use of contraceptives in women. These must be considered when assessing HT diagnosis HT.<sup>[2]</sup>

Furthermore, many inflammatory markers have been evaluated in untreated, newly diagnosed HT patients.<sup>[3]</sup> Epicardial tissue, of the endocrine organ, plays an important role in inflammation in many chronic diseases, including HT.<sup>[4]</sup> Recent data has emphasized that the potential importance of epicardial tissue is associated with inflammatory burden in chronic diseases. Echocardiographic epicardial fat measurement in both clinical and research scenarios has several advantages, including low cost, easy accessibility, rapid applicability, and good reproducibility.

Some issues should be addressed. First, in a recent study, measurement was performed at a point on the free wall of the right ventricle, along the midline of

the ultrasound beam, perpendicular to the aortic annulus. However, the mean value of 2 images obtained in parasternal long-axis and short-axis views should be measured. In addition, mediastinal fat, presenting as an echolucent area above the parietal pericardium should be excluded. Second, although many methods can be used for EFT measurement, the gold standard is magnetic resonance imaging or computed tomography. Because EFT has 3-dimensional distribution, 2-dimensional echocardiography cannot provide adequate window of all cardiac segments, particularly in obese subjects. Compared with magnetic resonance imaging or computed tomography, 2-dimensional echocardiography is highly dependent on acoustic windows and experience of the clinician. Thus, interobserver and intraobserver variability are significant factors in the assessment of EFT measurements.<sup>[5]</sup> Furthermore, recent data have shown that EFT thickness measured using echocardiography is associated with atherosclerosis in patients with coronary artery disease and atherosclerotic risk factors. Hypothyroidism, whether overt or subclinical, may affect the cardiovascular system. EFT may be a useful marker of subclinical atherosclerosis in patients with hypothyroidism.

In conclusion, because inflammation is most important cause of end-organ damage in patients with early-phase HT, clinicians must keep these factors in mind. In addition, EFT may be affected by many factors, and is associated with certain conditions. Further studies are warranted to address these factors in HT patients.

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doi: 10.5543/tkda.2016.48979



*Conflict-of-interest issues regarding the authorship or article: None declared*

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## Authors reply

Dear Editor,

We would like to thank the authors for their interest in our work titled, “Epicardial fat thickness associated with left ventricular myocardial performance in patients with newly diagnosed hypertension,” which was published in the December 2015;43(8):705-713 issue of the Archives of the Turkish Society of Cardiology.<sup>[1]</sup> As reported, we found that tissue Doppler myocardial performance index was independently associated with epicardial fat thickness (EFT) in patients with newly diagnosed hypertension (HT). It was ultimately suggested that EFT may be used as a predictor of impaired left ventricular global functions in patients with normal left ventricular ejection fraction and newly diagnosed HT.<sup>[1]</sup>

HT is a common cause of diastolic and systolic heart failure, and these disorders can present in the same patient.<sup>[2]</sup> There are many causes of HT. It is well known that certain factors, including lifestyle, salt intake, smoking, alcohol use, and use of contraceptives in women can influence blood pressure.<sup>[3]</sup> These factors were compared between 2 groups, and no statistically significant differences were found. Only rates of smoking were reported.<sup>[1]</sup>

EFT is a metabolically active organ that produces several proinflammatory, proatherogenic cytokines, and has emerged as a new cardiovascular risk factor.<sup>[4]</sup> Several methods can be used to measure EFT. Although the gold standards are magnetic resonance imaging or computed tomography, echocardiography can be used effectively for EFT measurement. All echocardiograms were presently performed and analyzed by 2 observers. Echocardiographic techniques and calculations of cardiac dimensions were performed in accordance with the recommendations of the American Society of Echocardiography.<sup>[5]</sup>

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*Conflict-of-interest issues regarding the authorship or article: None declared*

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