Author`s Reply

To the Editor,

We sincerely thank the author(s) for their interest and valuable comments on our manuscript titled "Evaluation of the effect of non-ergot dopamine agonists on left ventricular systolic function with speckle tracking echocardiography" (1).

As you mentioned, heart failure (HF) is classified according to left ventricle ejection fraction (LVEF) and includes a wide range of patients-those with preserved LVEF (≥50%), those with reduced LVEF (<40%), and those with mildly reduced LVEF (40%–49%) (2).

The diagnosis of HFpEF is more difficult than that of HFrEF. Patients with HFpEF generally have increased LV wall thickness and/or increased left atrial (LA) size as a sign of increased filling pressures, and most have diastolic dysfunction in echocardiographic examination.

The term HF is used to describe the symptomatic syndrome. As ESC guidelines recommend, HF diagnosis should be evaluated based on the patient's prior clinical history [e.g., coronary artery disease (2), arterial hypertension, diuretic use], presenting symptoms, and physical examination. If at least one element is abnormal, then plasma natriuretic peptides should be measured. Our study patients were asymptomatic, and their physical examination results were normal; therefore, HF was not considered in our patients, and we did not measure natriuretic peptides. If we had measured these, then we may have obtained additional information.

The main aim of our study was to evaluate possible subclinical deterioration of the LV. We evaluated systolic functions with speckle-tracking echocardiography-based strain, and global longitudinal strain values were in the normal ranges in the study groups. We evaluated the diastolic functions with conventional and tissue Doppler echocardiography. An important structural parameter in diastolic function determination is LA volume index, which was in the normal range in our patients. The E/e′ value, an important functional indicator of diastolic dysfunction, were in the normal range in our patients.

Future prospective studies with larger sample sizes should be planned, and particularly adding biomarkers, such as natriuretic peptides, to the investigation may provide additional information.

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An overlooked aspect in the assessment of systolic pulmonary arterial pressure in female patients with hyperthyroidism

To the Editor,

I read the article entitled "Echocardiographic evolution of pulmonary hypertension in female patients with hyperthyroidism" with great interest (1). The authors have demonstrated that pulmonary hypertension (PH), with various severities, was present in 73 of the total 142 female patients with hyperthyroidism. To detect PH in the study population, estimated systolic pulmonary arterial pressure (sPAP) was measured by transthoracic echocardiography (TTE). Moreover, patients who had an estimated sPAP ≥35 mm Hg at rest were considered to have PH. I commend the authors for their complementary contribution to the area of PH in patients with hyperthyroidism.

PH is defined as an increase in mean PAP ≥25 mm Hg at rest, as assessed by right heart catheterization (RHC) (2). Thus, RHC is considered the gold standard for the diagnosis of PH. However, TTE is recommended for screening for the presence of PH (2). Therefore, TTE is frequently used to estimate sPAP, to screen for PH, and to monitor progression over time because it is non-invasive, widely available, and relatively inexpensive.

The estimation of sPAP is based on the peak tricuspid regurgitation velocity (TRV) taking into account right atrial pressure (RAP), as described by the simplified Bernoulli equation (3). RAP can be estimated by TTE based on the diameter and respiratory

variation in diameter of the inferior vena cava (IVC); an IVC diameter <2.1 cm that collapses >50% with a sniff suggests a normal RAP of 3 mm Hg (range, 0–5 mm Hg), whereas an IVC diameter >2.1 cm that collapses <50% with a sniff suggests a high RAP of 15 mm Hg (range, 10–20 mm Hg). In scenarios where the IVC diameter and collapse do not fit this paradigm, an intermediate value of 8 mm Hg (range, 5–10 mm Hg) may be used. The EACVI recommends such an approach rather than using a fixed value of 5 or 10 mm Hg for sPAP estimations (4).

In the study by Tudoran et al. (1), it was not stated whether the diameter and respiratory variation of IVC were evaluated to estimate sPAP. Therefore, I think that it would be more appropriate if these parameters were evaluated as factors in the assessment of sPAP in female patients with hyperthyroidism.

In conclusion, TTE proved to be a reliable method for the assessment of sPAP, being well suited to establish a non-invasive diagnosis of PH (5). However, the diameter and respiratory variation of IVC should be taken into account while assessing sPAP rather than using a fixed value of 5 or 10 mm Hg for RAP estimations.

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Author`s Reply

To the Editor,

The authors sincerely thank the colleague from Turkey for his interest in the original article entitled "Echocardiographic evolution of pulmonary hypertension in female patients with hyperthyroidism" published in September 2018 in the Anatolian Journal of Cardiology (1) and we value his appreciation.

We revealed an increased prevalence of pulmonary hypertension in patients with hyperthyroidism through a more thorough echocardiographic evaluation of these patients, because we have always considered the cardiovascular complication associated with this pathology as a very interesting and important topic.

We determined the estimated systolic pulmonary artery pressure (sPAP) by transthoracic echocardiography, according to guideline recommendations (2, 3), based on the peak tricuspid regurgitation and taking into account the right atrial pressure (RAP). We regret that it was not clearly stated how we estimated RAP in the methods section of our article (1). For sPAP assessment, we relied on the determination of inferior vena cava (IVC) diameters as well as on its respiratory variations; an IVC diameter <2.1 cm that collapsed >50% with a sniff suggested a normal RAP of 3 mm Hg, whereas an IVC diameter >2.1 cm that collapsed <50% with a sniff or <20% on inspiration suggested a high RAP of 15 mm Hg.

We agree with our colleague that the diameter and respiratory variations of IVC are more accurate for the estimation of RAP while assessing PAPs, rather than the use of fixed values of 5 or 10 mm Hg.

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