The role of left atrial deformation parameters in the prediction of atrial fibrillation recurrence after cryoballoon ablation therapy

To the Editor,

I have read with great interest the recently published article by Gerede et al. (1) entitled "Prediction of recurrence after cryoballoon ablation therapy in patients with paroxysmal atrial fibrillation" in Anatol J Cardiol, 2015 Sep 15 [Epub of ahead of print]. They investigated the parameters that could predict the recurrence of atrial fibrillation (AF) after cryoablation and found that reduced LAAV and low PVSV as indicators of contractile and reservoir function of left atrium were the predictors of recurrence. In the study by Gerede et al. (1), there are no data regarding patient groups' medications. As it is well known that different antiarrhythmic drugs have different efficacy for maintaining sinus rhythms, I was wondering if there was any difference between patients with or without AF recurrence in terms of antiarrhythmic therapy?

In addition, in previous studies, it has been shown that patients with AF had diminished left atrial myocardial deformation values compared with healthy individuals with normal sinus rhythm (2, 3). In a study by Hwang et al. (4), in paroxysmal AF patients who had undergone radiofrequency ablation (RFA), the recurrence rates during the 9-month follow-up period were found to be associated with the global strain of left atrium. In addition, Mirza et al. (5) suggested that the diminished left atrial strain rate value was an independent predictor of AF recurrence after RFA. In addition to the existing parameters, left atrial deformation parameters measured using the 2-D speckle tracking method may be used as an echocardiographic parameter that may give more detailed information about the left atrial functions and may play an important role in determining the AF recurrence after cryoballoon ablation therapy. It would be helpful if the authors provided this information.

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Author`s Reply

To the Editor,

I read with great interest the author's letter about our article entitles "Prediction of recurrence after cryoballoon ablation therapy in patients with paroxysmal atrial fibrillation" in Anatol J Cardiol, 2015 Sep 15 Epub of ahead of print.

As you said, different antiarrhythmic drugs have different efficacy for maintaining sinus rhythm. In our study, only one patient of the ablated population was using amiodarone in the preablation period; however, he discontinued this drug approximately 1 month before the ablation. The remaining patients were those who could not use any antiarrhythmic therapy. Therefore, we did not analyze the antiarrhythmic effect on recurrence because only one patient was using amiodarone. All the patients were discharged with the use of antiarrhythmic therapy after cryoablation, and on the 3-month follow-up visit, use of the antiarrhythmic drug was stopped. Amiodarone is the only available oral antiarrhythmic agent in our country; therefore, the patients used amiodarone during the 3 months after the procedure. Because all patients took the same drug using the same dose schema, an effect on the recurrence cannot be expected.

As you have mentioned, there are studies underlining the significance of left atrial strain measurements in the prediction of AF recurrence. You are right; left atrial deformation parameters measured with 2-D speckle tracking method could be included in our study. However, this method is considered as a further investigation and is not easily available; in addition, it requires special software. For these reasons, we think that the parameters, which we analyzed and suggested to be used in the prediction of AF recurrence, are more feasible and common.

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Natriuretic peptide and cardiac troponin levels in doxorubicin-induced cardiotoxicity

To the Editor,

We read with a great interest the paper by Argun et al. (1) entitled "Cardioprotective effect of metformin against doxorubicin cardiotoxicity in rats" published in the Anatolian Journal of Cardiology 2015 as Epub ahead of print. The authors aimed to investigate the effectivity of metformin in doxorubicin-induced cardiotoxicity using cardiac markers in blood and histopathological examination in the rat model. They concluded that metformin improved the left ventricular function, histopathologic change, and cardiomyocyte apoptosis. We congratulate the authors for this valuable investigation, and we have a few comments.

Doxorubicin (DXR) is a very effective and commonly used chemotherapeutic drug for the treatment of different types of cancers. It blocks cell division and growth by interacting DNA and RNA formation. However, it can cause a life-threatening heart damage, resulting in left ventricular dysfunction, thus limiting its usage (2).

Both atrial natriuretic peptide (ANP) and brain natriuretic peptide (BNP) are useful predictors of decreased left ventricular function in patients treated with DXR. ANP secretion from atria is triggered by atrial dilatation due to cardiac or noncardiac reasons. BNP is produced in the ventricle and is more specific for heart failure than ANP (1–3). Koh et al. (3) reported that plasma BNP levels significantly increased from 6 to 12 weeks in the doxorubicin-induced cardiotoxicity. In the study by Argun et al. (1), there was no statistical difference among groups in terms of ANP or BNP. This may be due to the design of the study, which is relatively short for the occurrence of chronic heart failure because of DXR.

Cardiac troponin (TnT) is a very specific and highly sensitive marker for myocardial damage and commonly used in clinical practice. Similar to BNP, TnT has been reported as an independent predictor of cardiac mortality in heart failure (2–4). In the study by Argun et al. (1), it would have been very helpful to measure TnT levels in terms of myocardial injury due to DXR. Thus, one could make an interpretation that TnT levels had increased in the early stage in the DXR-induced cardiotoxicity, but no change were observed in the BNP levels, which is very crucial for the early detection of DXR-induced cardiotoxicity before irreversible damage.

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Author`s Reply

To the Editor,

Many thanks to the authors for their important comments to our paper entitled "Cardioprotective effect of metformin against doxorubicin cardiotoxicity in rats" published in the Anatolian Journal of Cardiology 2015 as Epub ahead of print (1). It is of great importance to detect cardiotoxicity as early as possible in patients receiving cardiotoxic chemotherapy. This would make it possible to minimize cardiotoxicity-associated mortality and morbidity.

The role of cardiac biomarkers such as cardiac troponins and natriuretic peptides in the prediction of chemotherapy-induced cardiotoxicity has been investigated in animal models and clinical studies. These studies have focused on the early detection of cardiotoxicity and/or the relative sensitivities of the available biomarkers for the prediction of cardiotoxicity.

As you indicated, our study could have achieved more significant results if troponins had also been studied in conjunction with brain natriuretic peptide (BNP). Although some studies have not reported significant chemotherapy-induced elevations in tro-