

Since then, I have received comments from my dear colleagues. According to these comments, an increase in atrial electromechanical delays (EMDs) occurs when left atrial enlargement reaches a certain level. There is some evidence supporting this hypothesis. Tsang et al. (4) demonstrated that when left atrial size reaches  $>27 \text{ mL/m}^2$ , the probability for the first episode of atrial fibrillation increases in the presence of left ventricular diastolic dysfunction. However, the question remains as to what is the critical point in left atrial size. To my knowledge, it has yet to be defined through new research. On the other hand, several pathological processes such as structural and electrical remodeling with multiple etiologies underlie the occurrence of atrial fibrillation. It has been suggested that atrial size is an index of structural remodeling and that atrial conduction times are markers of structural and electrical remodeling (3). In another part of these comments, it was cited that tissue Doppler echocardiography is not a reliable method for the evaluation of atrial EMDs in subjects with a normal atrial size. There is one study (5) that compared atrial conduction times as evaluated by tissue Doppler echocardiography and electrophysiological studies, and this study showed a weak association between the two methods regarding inter-atrial EMD, a moderate association with respect to left intra-atrial EMD, and no association in terms of right intra-atrial EMD. Left atrial size in that study was normal. Nevertheless, it should be considered that in that study, a high right atrial signal was used instead of a tricuspid annulus signal. It can be cause of these weak associations found in that study. Consequently, although there are some doubts with respect to the measurement of atrial EMDs by tissue Doppler echocardiography, the existing literature lacks a well-designed study that compares results between electrophysiological study and tissue Doppler echocardiography. Moreover, there is no evidence for the shortcomings of tissue Doppler echocardiography in the evaluation of atrial EMDs in a normal atrial size. These are, therefore, queries that merit future research on the feasibility of tissue Doppler echocardiography in the evaluation of atrial EMDs.

## Author's Reply

To the Editor,

We would like to thank the authors of the letter for their interest and criticism about our study entitled "Assessment of atrial conduction times in patients with mild diastolic dysfunction and normal atrial size" published in November issue of The Anatolian Journal of Cardiology 2015; 15: 925-31 (1).

I conducted my study on the basis of the hypothesis that electrical remodeling can occur before structural remodeling in diastolic left ventricular dysfunction (2), and I adopted the evaluation of atrial conduction times as a marker for atrial electrical remodeling (3).

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## References

1. Hosseinsabet A. Assessment of atrial conduction times in patients with mild diastolic dysfunction and normal atrial size. *Anatol J Cardiol* 2015; 15: 925-31.
2. Chao TF, Wang KL, Chuang CF, Chen SA, Yu WC. Atrium electromechanical interval in left ventricular diastolic dysfunction. *Eur J Clin Invest* 2012; 42: 117-22.
3. Calik AN, Özcan KS, Çağdaş M, Güngör B, Karaca G, Gürkan U, et al. Electromechanical delay detected by tissue Doppler echocardiography is associated with the frequency of attacks in patients with lone atrial fibrillation. *Cardiol J* 2014; 21: 138-43.

4. Tsang TS, Barnes ME, Gersh BJ, Bailey KR, Seward JB. Risks for atrial fibrillation and congestive heart failure in patients  $\geq 65$  years of age with abnormal left ventricular diastolic relaxation. *Am J Cardiol* 2004; 93: 54-8.
5. Deniz A, Şahiner L, Aytemir K, Kaya B, Kabakçı G, Tokgözoğlu L, et al. Tissue Doppler echocardiography can be a useful technique to evaluate atrial conduction time. *Cardiol J* 2012; 19: 487-93.

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