P-wave dispersion and left ventricular diastolic dysfunction in hypertension

To the Editor,

We read the manuscript written entitled "Association of P wave dispersion and left ventricular diastolic dysfunction in non-dipper and dipper hypertensive patients." by Tosu et al. (1) that was published in April issue of The Anatolian Journal of Cardiology 2014; 14: 251-5, "Association of P-wave dispersion and left ventricular diastolic dysfunction in non-dipper and dipper hypertensive patients," with great interest. They evaluated patients for left ventricular (LV) diastolic dysfunction and association with P-wave dispersion in dipper and non-dipper hypertensive patients. They found that P-wave dispersion is associated with left ventricular dysfunction in non-dipper and dipper hypertension.

This is an interesting study, but we have some additional contributions. First, in this study, parameters, including E/A rates, deceleration time (DT), and isovolumetric relaxation time (IVRT), were used to evaluate diastolic dysfunction. In addition, in the correlation analysis, the authors mentioned that P-wave dispersion is correlated with left ventricular mass index (LVMI), IVRT, left atrial diameter (LAd), E/A, and interventricular septum (IVS), and these correlations are presented as evidence for left ventricular diastolic dysfunction. However, these parameters are not sufficient for the evaluation of diastolic dysfunction according to current guidelines. Tissue Doppler imaging (TDI) methods, such as e' , a' , and E/e' , should be used for the optimal assessment of left ventricular diastolic dysfunction (2). e' is commonly used to refer to arterial elastance. The mitral inflow E velocity to tissue Doppler e' , E/e' latter ratio plays an important role in the estimation of LV filling pressures. In patients with cardiac disease, e' velocity can be used to correct for the effect of LV relaxation on mitral E velocity, and the E/e' ratio can be applied for the prediction of LV filling pressures (3). Additionally, using the septal E/e' ratio, a ratio <8 is usually associated with normal LV filling pressures, whereas a ratio >15 is associated with increased

filling pressures (2). These parameters should be included in this study for a better assessment. Again, for the assessment of left ventricular diastolic dysfunction, a comparison between P-wave dispersion and TDI parameters would be more accurate.

Daytime ambulatory blood pressure (ABP) is usually higher than nighttime ABP, and the reverse diurnal pattern is independently associated with a higher incidence of cardiovascular events and mortality (4). Reverse-dippers still had approximately twice the risk for stroke versus dippers or non-dippers. Reverse-dippers also had twice as many total cardiovascular events (cardiac and stroke events) as the other dipping groups (5). On the other hand, as you evaluate dipper and non-dipper patient groups, it would be better to include reverse-dipper patients in the study, as this subgroup has the worst prognosis in hypertension patients.

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