Utility of B-Natriuretic Peptide in Detecting Diastolic Dysfunction: Comparison With Doppler Velocity Recordings

To the Editor:

Lubien et al. found that, in the absence of left ventricular (LV) systolic dysfunction, plasma B-natriuretic peptide (BNP) levels were significantly higher in patients with LV diastolic dysfunction as assessed with echocardiography than in subjects without LV diastolic dysfunction. In the subgroup of patients with impaired relaxation, BNP levels were markedly higher than in controls (202 versus 33 pg/mL). This result is surprising because BNP is secreted from the ventricles mainly in response to pressure overload and ventricular filling pressures are usually normal in these patients. There are at least 3 explanations for this finding. First, patients with impaired relaxation may have abnormally high loading pressures during stress, resulting in an elevation of resting BNP levels. BNP half-life is short, however, about 20 minutes, making this hypothesis unlikely. Another explanation is that LV hypertrophy in the absence of ventricular pressure overload could result in marked plasma BNP elevation. We lack studies to assess the relevance of this explanation. The third explanation is that the control group in the study by Lubien et al. is inadequate. Mean age of the control group was 60 years versus 71 years in the diastolic dysfunction group. BNP plasma levels increase with age and could be very high in patients with renal failure. The authors did not give any information about creatinine clearance in the 2 groups. Thus, we think that the data of Lubien et al. do not support unequivocally the assertion that plasma BNP is a good tool for the diagnosis of any category of LV diastolic dysfunction.

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