Tissue Doppler assessment of left ventricular function in asymptomatic diabetic patients

To the Editor,

Left ventricular diastolic dysfunction (LVDD) is very common in the diabetic population, even in the absence of coronary artery disease, valve pathology, or hypertension. It is an indicator of myocardial damage before heart failure becomes apparent and serves as a predictor of adverse cardiac events. Hence, early identification of myocardial dysfunction and correction of potentially modified risk factors are very important in order to delay the onset of heart failure. Unfortunately, subclinical cardiomyopathy is often still unrecognized in asymptomatic diabetic patients (1). Tissue Doppler imaging (TDI) is a non-invasive cardiac imaging technique that measures the velocity of the longitudinal motion of the mitral annulus and has the capability for early detection of LVDD (2).

A total of 48 patients were included in a cross-sectional, single-center study. Twenty-five asymptomatic patients with diabetes mellitus type 2 (DM) comprised the target (diabetic) group, and the control group included 23 patients with hyperlipidemia and obesity but without DM. All patients underwent echocardiographic analysis [conventional pulsed-wave (PW) Doppler echocardiography and TDI] of left ventricular function. We compared the results of both techniques and demonstrated that TDI is superior to PW Doppler in early detection of subclinical left ventricular diastolic dysfunction (z=2.02; p<0.04).

Our findings are comparable to other studies. Rodriguez-Vigil et al. (4) also confirmed a relationship between cardiovascular complications and gender, age, disease duration, and glycemic control in diabetic patients.

Although many studies suggest correlation between hyperlipidemia and LVDD, our analysis did not confirm this relationship in both groups (p<0.1 for diabetic and p<1 for control group) (5). We have no clear explanation why this was so, but if we take into consideration the fact that patients with good glucose regulation and vulnerability to atrial fibrillation in the isolated Langendorff-perfused rabbit heart. Eur J Cardiothorac Surg 1997; 10: 1853-9.


References


References


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