

Treated arterial hypertension-which echocardiographic parameters should we monitor?

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Abstract

Aims

To identify discriminatory parameters of left ventricular systolic and diastolic function in a group of patients with treated arterial hypertension (HTN).

Methods and results

95 patients with treated essential HTN, recruited from a cardiology outpatient clinic, with a regular follow-up of at least one year, were evaluated with conventional echocardiography and pulsed tissue Doppler imaging (TDI). A) controlled HTN and B) uncontrolled HTN. Peak systolic (Sm) and early diastolic (Em) myocardial velocities and the ratio of mitral inflow E wave to Em (E/Em) were assessed. All patients had preserved ejection fraction. TDI study was consistent with impaired systolic and diastolic parameters in patients with uncontrolled HTN: septal Sm (cm/s) 7.8 +/- 1.8 vs. 6.8 +/- 2.2 (p = 0.004); lateral Sm (cm/s) 9.1 +/- 2.8 vs. 7.7 +/- 1.7 (p = 0.001); septal Em (cm/s) 7.9 +/- 1.8 vs. 6.8 +/- 1.8 (p = 0.002); lateral Em (cm/s) 9.9 +/- 2.8 vs. 8.23 +/- 2.7 (p = 0.002); mean E/Em 8.7 +/- 2.2 vs. 10.8 +/- 3.9 (p = 0.002).

Conclusion

In patients with uncontrolled HTN there are echocardiographic parameters that identify early changes in systolic function (reduction in septal and lateral Sm, with preserved ejection fraction) and diastolic function (with a reduction in septal and lateral Em). Regular monitoring of these parameters in hypertensive patients enables early identification of changes that may have repercussions on hypertension control.

Keywords

Treated hypertension; Echocardiography; Tissue Doppler imaging; Left ventricular function