

Does Aliskiren Influence the Changes of Global Longitudinal Strain in Patients with Diastolic Dysfunction?

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Objective:

To investigate the effects of Aliskiren on the myocardial function, assessed by global longitudinal strain (GLS) in patients with uncontrolled arterial hypertension (AH) and diastolic dysfunction (DD).

Material and Methods:

Forty five nondiabetic patients (29 men and 16 women, mean age 58.7 ± 12.4) with blood pressure (BP) $> 140 / 90$ mm Hg despite of combined antihypertensive therapy (diuretic, calcium channel blockers, beta-blockers) were evaluated. All of them had echocardiographic (echoCG) data for DD I st degree: E/E' ratio ≤ 8 , E/A ratio < 0.8 , Deceleration time (DT) > 200 msec. Aliskiren 150 mg BID was added to the previous therapy. BP changes evaluation, echoCG assessment of GLS and Doppler analysis of the transmitral blood flow were performed at months: 1, 6 and 12.

Results:

The baseline mean measurements of systolic and diastolic BP (SBP, DBP) showed $153.4 \pm 14.4 / 99.2 \pm 6.7$ mm Hg for males and $157.6 \pm 12.5 / 97.3 \pm 8.2$ mm Hg for females. The SBP and DBP values at the end of the 1st month were $131.7 \pm 7.4 / 83.6 \pm 5.2$ mm Hg in men and $132.4 \pm 5.3 / 81.8 \pm 6.9$ mm Hg in women ($p < 0.05$, compared to the initial BP). Baseline ratio of E/E' was found to be 6.5 ± 0.9 , E/A ratio $- 0.6 \pm 0.01$ and DT - 258 ± 32.7 msec. The values of these parameters at month 12 were as follows: E/E' $- 7.0 \pm 0.64$, E/A $- 0.7 \pm 0.05$, DT - 239 ± 16.5 msec ($p = NS$). Baseline GLS in men was $-10.4 \pm 0.7\%$ and $-11.0 \pm 0.9\%$ in women, whereas GLS at month 12 showed values of: $-16.3 \pm 0.9\%$ and $-17.5 \pm 0.7\%$ for males and females respectively ($p < 0.05$). During the whole period of treatment with Aliskiren no adverse effects were registered.

Conclusion:

Adding Aliskiren to a combined antihypertensive therapy (without RAAS blocker) in patients with uncontrolled AH and DD a better BP control and a significant improvement of the myocardial function, assessed by GLS, were achieved. The 12 months treatment with Aliskiren was well tolerated.