

Abstract

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L-Carnitine Treatment in Patients with Mild Diastolic Heart Failure Is Associated with Improvement in Diastolic Function and Symptoms.

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OBJECTIVES: L-Carnitine is a crucial component of activated fatty acid transport. The aim of this study was to evaluate the effect of L-carnitine on patients with a history of mild heart failure and diastolic dysfunction.

METHODS: Twenty-nine patients with a history of NYHA functional class II symptoms and ejection fraction >45% with documented grade 1 diastolic dysfunction on echocardiogram were randomized in blinded fashion to receive 1,500 mg of L-carnitine daily for 3 months in comparison to a no treatment group (31 patients). Baseline echocardiographic and follow-up measurements of diastolic parameters were assessed after 3 months.

RESULTS: Important parameters of diastolic function improved in the L-carnitine group only: left atrial size (3.6 +/- 0.4 cm before treatment vs. 3.4 +/- 0.5 cm after treatment, $p = 0.01$); isovolemic relaxation time (127 +/- 26 ms before vs. 113 +/- 24 ms after treatment, $p = 0.007$); septal mitral E' velocity (0.064 +/- 0.01 m/s before vs. 0.074 +/- 0.01 m/s after treatment, $p = 0.01$), and lateral mitral E velocity (0.082 +/- 0.01 m/s before vs. 0.091 +/- 0.02 m/s after treatment, $p = 0.006$). Dyspnea also significantly improved in L-carnitine-treated patients.

CONCLUSIONS: In patients with a history of diastolic heart failure, important indices of diastolic function and symptoms appear to improve with L-carnitine treatment.

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