

Does breathing technique improve diastolic function of left ventricular?

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Background. Diastolic heart failure (HF) is an important clinical disorder mainly seen in the elderly patients with hypertensive heart disease. Early recognition and appropriate therapy of diastolic dysfunction is advisable to prevent further progression of the illness. There is no specific therapy to improve diastolic function directly. Mechanisms by which yoga may improve cardiac function and reduce myocardial stress are speculated at this time.

Purpose. The study's purpose was to analyze the effects of full yogic breathing on diastolic function of left ventricular in patients with HF.

Methods. One hundred and two patients with chronic HF (males, 62%; mean age, 68.2 ± 4.5 years) were randomly assigned to full yogic breathing training plus standard therapy ($n = 48$) or standard therapy alone ($n = 54$). Patients in both groups were assessed at baseline and 6 months after randomization. Echocardiographic evaluation of diastolic function has been performed by measurement of transmitral flow parameters including the early (E) and late (A) diastolic filling velocities, the E/A ratio, and the E deceleration time (DT) with conventional pulsed wave Doppler. The medial and lateral early diastolic mitral annular velocities, and the E/Ea ratio were also assessed by tissue Doppler imaging.

Results. There were no significant differences in demographic and baseline characteristics between participants. By the end of the observation period significant diastolic function improvements were observed in yogic breathing group. E/A ratio (from 1.02 ± 0.9 to 1.13 ± 0.7 ; from 1.01 ± 0.7 to 1.08 ± 0.8) was increased, whereas E DT (from 238 ± 16 to 216 ± 17 ms; from 229 ± 20 to 221 ± 19 ms) and E/Ea ratio (from 9.87 ± 1.34 to 8.71 ± 0.79 ; from 9.77 ± 1.26 to 9.36 ± 0.68) were decreased in yogic breathing group compared with standard therapy alone group.

Conclusion. Yoga breathing practice for 6 months showed a significant improvement in diastolic function of left ventricular.