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Source

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Abstract

Patients with chronic coronary heart disease often suffer from congestive heart failure (CHF) despite multiple drug therapies. D-Ribose has been shown in animal models to improve cardiac energy metabolism and function following ischaemia. This was a prospective, double blind, randomized, crossover design study, to assess the effect of oral D-ribose supplementation on cardiac hemodynamics and quality of life in 15 patients with chronic coronary artery disease and CHF. The study consisted of two treatment periods of 3 weeks, during which either oral D-ribose or placebo was administered followed by a 1-week wash out period, and then administration of the other supplement. Assessment of myocardial functional parameters by echocardiography, quality of life using the SF-36 questionnaire and functional capacity using cycle ergometer testing was performed. The administration of D-ribose resulted in an enhancement of atrial contribution to left ventricular filling (40+/-11 vs. 45+/-9%, P=0.02), a smaller left atrial dimension (54+/-20 vs. 47+/-18 ml, P=0.02) and a shortened E wave deceleration (235+/-64 vs. 196+/-42, P=0.002) by echocardiography. Further, D-ribose also demonstrated a significant improvement of the patient's quality of life (417+/-118 vs. 467+/-128, P< or =0.01). In comparison, placebo did not result in any significant echocardiographic changes or in quality of life. This feasibility study in patients with coronary artery disease in CHF revealed the beneficial effects of D-ribose by improving diastolic functional parameters and enhancing quality of life.

PMID: 14607200