

NUTRITION FACTOR: In Brief

Heart supplement being studied

Congestive heart failure 'cocktail' undergoing tests in Toronto

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A nutritional "cocktail" that aims to restore myocardial and skeletal muscle reserves in patients with congestive heart failure has done well in tests.

In a hamster model of heart failure, Toronto researchers supplemented diets with L-carnitine, coenzyme Q10 and taurine together with creatine, thiamine, selenium and vitamins E and C.

The structure of cardiac muscle cells under the electron microscope of hamsters receiving the supplement were well preserved in contrast to those on a placebo. The supplemented animals' hearts generated more pressure and did more work.

In a controlled clinical trial performed under the direction of Dr. Lee Errett, director of cardiovascular surgery at St. Michael's Hospital in Toronto, 40 patients who were candidates for coronary artery bypass graft were given the supplement or a placebo for one month prior to surgery.

Heart biopsies taken at the time of surgery showed that hearts of patients on the supplement had higher levels of L-carnitine, coenzyme Q10 and taurine than those on placebo. More importantly, cardiac function based on nuclear ventriculography was significantly improved.

"The heart patient who is losing weight has a higher mortality, but simply feeding protein and calories will not improve cardiac function," said one of the researchers, Dr. Khursheed Jeejeebhoy, also of St. Michael's Hospital. "A patient with a failing heart is not generating enough energy."

Studies have shown patients with congestive heart failure have diminished levels of components of L-carnitine, coenzyme Q10 and taurine in heart muscle.

These deficiencies are associated with reduced myocardial energy generation. Dr. Jeejeebhoy said researchers wondered if there was a way to replete these deficiencies and thus improve cardiac energetics. These animal and human studies have confirmed supplementation improves cardiac function, said Dr. Jeejeebhoy.

The supplement has been formulated into a drink and a powder by Nutricia, a subsidiary of Royal Numico, a Netherlands-based nutrition company and the parent company of GNC, a chain of retail vitamin and nutritional supplement stores.

Currently, the supplement, under the trade name MyoVive, is being distributed in the U.S. The product is expected to be available in Canadian stores by the end of the year.