

Diet Prescription in Chronic Heart Failure: Why Don't We Do It?

Adriana Lopes Latado

Hospital Universitário Professor Edgard Santos; Hospital Ana Neri; Universidade Federal da Bahia, Salvador, BA - Brazil

Treatment programs for chronic heart failure patients are effective in reducing clinical outcomes, especially hospital readmissions. Multidisciplinary teams participate in this program, including general practitioners, cardiologists, nurses, physiotherapists, psychologists and nutritionists, among others¹. In recent years, the importance of nutrition in the prognosis and treatment of heart failure patients has been recognized. A controlled study conducted by Witte et al² showed that the supplementation of a combination of micronutrients had a significant effect in the ventricular function and promoted an apparent improvement in quality of life in heart failure patients.

Chronic heart failure is associated with inadequate intake of calories and protein, and reduced energy availability for physical activity³. Micronutrient and vitamin deficiencies have been described in HF, and they result from factors that are common in the syndrome (low intake, depletion by use of diuretics and, in some situations, excessive spending). Moreover, they can trigger or worsen heart diseases⁴.

Much has been done in clinical research on pharmacotherapies of heart failure in recent decades, but too little attention has been given to non-pharmacological treatment, particularly nutritional guidelines.

The study of Lourenço et al⁵ raises again the issue of nutritional disorders presented by patients with stable chronic heart failure in a sample of patients seen in a specialized clinic. The authors demonstrated the occurrence of depletion of muscle reserves and inadequate dietary intake of various nutrients, such as magnesium, zinc, iron, thiamine, calcium, potassium and sodium.

While the majority of patients have reported carbohydrates, lipid and protein intakes within the current recommendations⁶, 38.4% of the cases had risk of depletion or depletion of muscle reserves, measured by the arm muscle area. In this subgroup, most patients had body mass index (BMI) within normal range ($24.2 \pm 3.2 \text{ kg/m}^2$), drawing attention to the limitations in the use of BMI as an indicator of energy intake adequacy in heart failure patients.

Heart failure is characterized by hypercatabolism³. The

inadequacy of energy intake acts as an additional catabolic state, leading to progressive deterioration of intra-cellular concentrations of glycogen and amino acids and degradation of muscle proteins⁷. The evolution of this process culminates in the installation of cardiac cachexia, an important prognostic factor that affects quality of life and survival in heart failure^{3,7}.

An inadequate intake of micronutrients (minerals and thiamine) also occurred in a significant percentage of patients in the study of Lourenço et al⁵. Micronutrient deficiencies are common in chronic heart failure patients, and their origin appears to be multifactorial⁴. Calcium, potassium and magnesium intakes were described as below the recommended levels in almost all the patients, unlike sodium, whose intake was above the level considered appropriate in 84% of the study patients⁵.

The study of Lourenço et al⁵ has limitations, some of which have been mentioned by the authors themselves: the patients' self-reported data were collected retrospectively and they were prone to memory and classification biases, and no biochemical variables were used in the nutritional assessment of the patients, which was limited to an anthropometric data interpretation. Other aspects were also relevant. The sample size was small, limiting the validity of some described associations. There was a lack of clinical and complementary tests on the sample that could directly or indirectly interfere with some described findings, such as etiology of heart failure, left ventricle ejection fraction, functional class, and presence of renal failure, among others.

Renal failure patients have significant humoral and metabolic changes which, by themselves, affect their nutritional condition⁸. Patients with heart failure secondary to Chagas' disease are subject to the effects of a lower socio-economic status, which may directly affect their dietary habits. Although the degree of left ventricular systolic dysfunction did not involve the level of malnutrition in heart failure patients in some studies^{9,10}, this is still a controversial issue, as the weight loss observed in these patients is linked to more intense neuro-humoral and immunological changes⁹.

Nevertheless, the study conducted by Lourenço et al⁵ was important because it reinforced the idea that a systematic assessment of the nutritional status of chronic heart failure patients is needed in the context of multidisciplinary care, whose benefits are already well established. Also, randomized controlled clinical studies are needed to investigate the effectiveness of specific nutrient replacements in the prognosis of these patients.

Key Words

Prescriptions, non-drug; diet; heart failure.

Mailing address: Adriana Lopes Latado •

Rua Rosa dos Ventos, 39/1002 - Ed. Pedra Alta - Brotas - 40286-040
Salvador, BA - Brazil

E-mail: adrianalatado@cardiol.br, abraga@ufba.br

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