

New Universal Definition of Heart Failure: A New Vision for Treatment

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In March 2021, a new universal definition and classification for heart failure (HF) was published simultaneously in the *Journal of Cardiac Failure* and the *European Journal of Heart Failure*.¹ This document was produced by the European, North American, and Japanese Heart Failure Societies and was endorsed by the Canadian, Indian, Chinese, Australian, and New Zealand HF Societies. The objectives of the publication were to provide a universal, simple, and comprehensive **definition** that can guarantee standardization in clinical research, guidelines, and treatment, as well as guidance for patients and public policy makers. It also proposed a revised **classification** based on left ventricular ejection fraction (LVEF) to guide therapy according to HF category, and, finally, to revise the HF stages, aiming at both prognosis and prevention.

HF has been defined in Cardiology textbooks as a clinical syndrome characterized by the heart's inability to pump enough blood to meet the body's metabolic demands. However, this pathophysiological profile is only found in advanced stages of HF. Definitions vary in the guidelines of different Societies and also diverge from textbooks, including the concept of signs and symptoms associated with hemodynamic and neurohormonal abnormalities, which are neither simple nor easily measurable.

The new definition is comprehensive, unifying and facilitating the recognition of HF, incorporating not only signs and symptoms, but also objective markers of dysfunction and congestion. According to the new definition, HF is a clinical syndrome with signs and symptoms caused by a functional or structural cardiac abnormality that is accompanied by elevated natriuretic peptide levels and/or evidence of pulmonary or systemic congestion (Figure 1). The signs and symptoms cited in the document have been expanded and divided into typical and atypical. In addition, cut-off values for natriuretic peptides have been incorporated for the first time, as well as a list of situations that could influence them. This is an important point, since these biomarkers can accurately confirm or exclude the syndrome and make diagnosis easier and more objective.

Keywords

Heart Failure; Public Health; Family Medicine; Cardiomyopathies.

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The new classification according to LVEF allows the construction of a phenotype to guide treatment. Replacing the term “mid-range” with “slightly reduced EF” is noteworthy since current data show that neurohormonal blockade benefits this group of patients, as it does patients with HF with reduced EF (HFrEF).² Another important point that the new definition calls attention to is the clinical course of LVEF: LVEF in patients with HFrEF can be improved with optimized management. Moreover, an accelerated decline in EF indicates a need to intensify therapy.

HFrEF: HF with LVEF $\leq 40\%$.

HF with slightly reduced EF: HF with LVEF 41-49%.

HF with preserved EF: HF with LVEF $\geq 50\%$.

HF with improved EF: HF with a baseline LVEF $\leq 40\%$, a ≥ 10 point increase from baseline LVEF, and a second measurement of LVEF $> 40\%$.

Another important aspect was the revision of HF stages: At-risk for HF (stage A), Pre-HF (stage B), HF (stage C), and Advanced HF (stage D) (Figure 2). The terms “asymptomatic”, “at-risk”, and “pre-HF” will more convincingly describe the syndrome's severity to patients, thus reinforcing prevention and treatment adherence like the concept of pre-malignancy. It is also important that biomarkers (natriuretic peptides or troponin for those exposed to cardiotoxic agents) were added as an alternative to functional or structural change in stage B.

Another important innovation is the terminology used to describe the patient's clinical course: **worsening HF** (deterioration of signs and symptoms despite progression in therapy, requiring hospitalization or advanced intravenous therapy), **persistent HF** (lack of symptom improvement), and **HF in remission** (resolution of signs and symptoms accompanied by resolution of previous cardiac abnormalities). The results of the TRED-HF trial revealed that 40% of the dilated cardiomyopathy patients who had reverse remodeling and symptom improvement with treatment relapsed upon discontinuing therapy, which suggests remission rather than recovery.³ Another prominent substitution was changing “stable HF” to “persistent HF”, which highlights the concept of time-sensitive therapy to avoid therapeutic inertia (Figure 2).

The new definition is, in our view, an important milestone for standardizing diagnosis, understanding the syndrome's clinical course, and facilitating communication with patients who experience HF on a daily basis. The Brazilian Cardiology Society's Department of Heart Failure recommends this new approach that will be progressively incorporated into care and research (Figure 3).

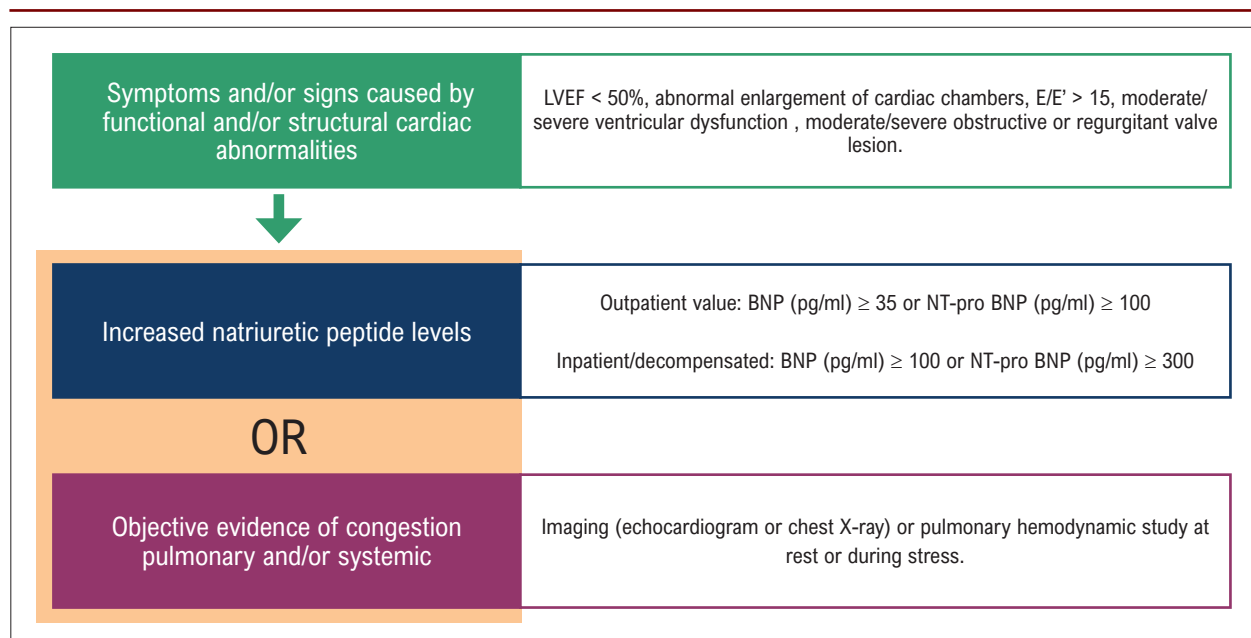


Figure 1 – New universal definition of HF. LVEF: left ventricular ejection fraction; NT-pro BNP: N-terminal-pro B-type natriuretic peptide; E/E': ratio between early mitral inflow velocity and mitral annular early diastolic velocity. (modified from reference 1).

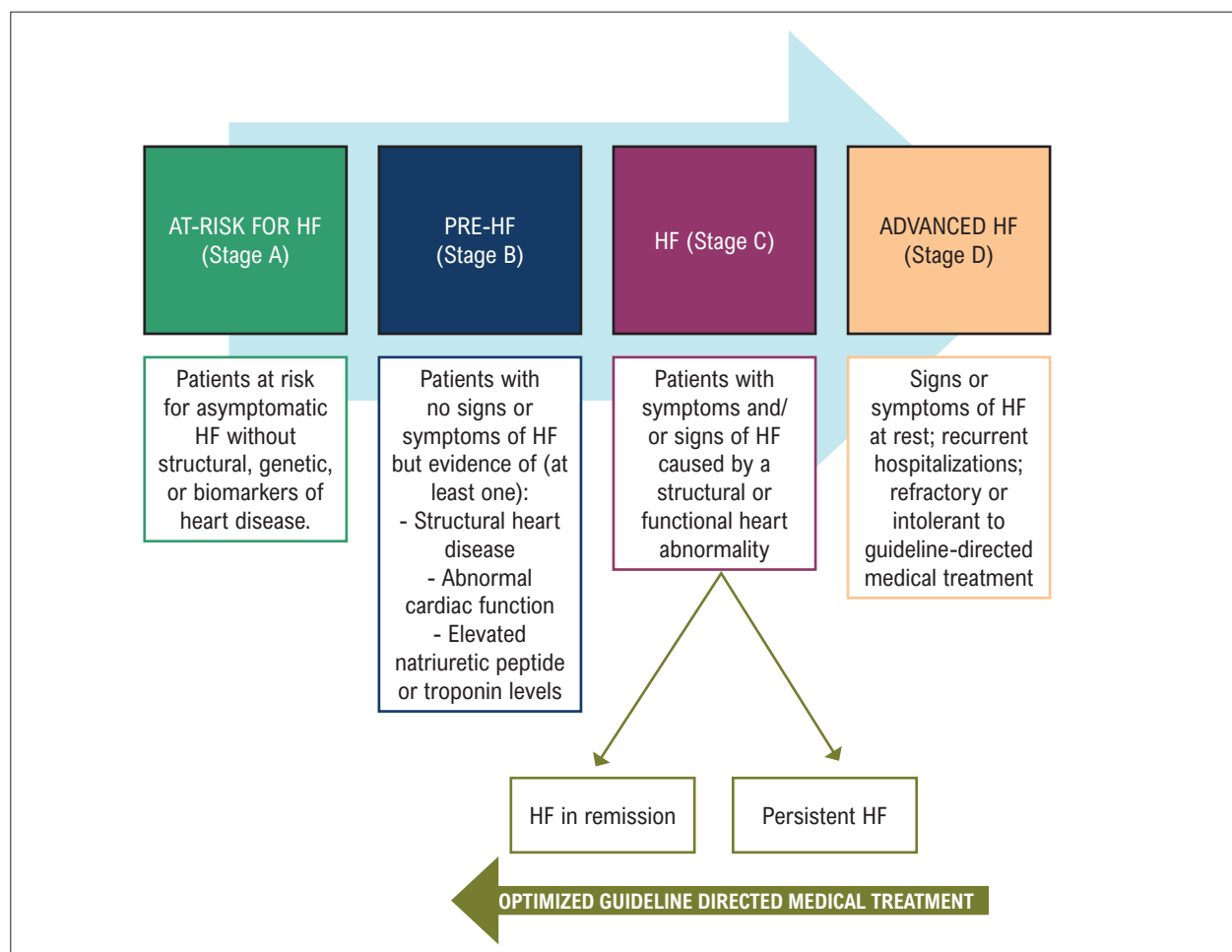


Figure 2 – Stages in the development and progression of heart failure (HF). (modified from reference 1).

09 de julho de 2022

Prof. Carlos Chagas
Patrono do DEIC.



Figure 3 – Carlos Chagas - Day of the alert.

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