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REVIEW

Major developments in the 2016 European guidelines for heart failure[☆]

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Abstract The European Society of Cardiology has recently published new guidelines on the diagnosis and treatment of acute and chronic heart failure (HF). This article aims to review these recommendations and their level of scientific evidence and to present the most innovative aspects. The most significant deviations from the 2012 edition are: (1) the introduction of the concept of HF with midrange LVEF (40–49%); (2) a new diagnostic algorithm for chronic HF, initially considering the clinical probability; (3) recommendations on preventing or delaying the apparition of HF; (4) indications for the use of the new sacubitril-valsartan compound, the first angiotensin receptor blocker and neprilysin inhibitor; (5) modification of indications for cardiac resynchronization therapy; and (6) a new algorithm for a combined diagnostic and treatment strategy for acute HF based on the presence or absence of congestion and hypoperfusion.

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PALABRAS CLAVE

Insuficiencia
cardíaca;
Guías clínicas;
Medicina basada en la
evidencia

Principales novedades de las guías europeas de insuficiencia cardíaca del 2016

Resumen Recientemente se han publicado las nuevas guías sobre diagnóstico y tratamiento de la insuficiencia cardíaca (IC) aguda y crónica de la Sociedad Europea de Cardiología. El objetivo de este artículo es revisar estas recomendaciones, su nivel de evidencia científico y los aspectos más novedosos. Los cambios más importantes con respecto a la edición de 2012 se refieren a:

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1) introducción del concepto de IC con fracción de eyección en rango medio (40–49%); 2) nuevo algoritmo diagnóstico de la IC crónica considerando inicialmente la probabilidad clínica; 3) recomendaciones para prevenir o retrasar la aparición de IC; 4) indicaciones para el uso del nuevo compuesto sacubitrilo-valsartán, el primer inhibidor del receptor de la angiotensina y neprilisina; 5) modificación de las indicaciones para la terapia de resincronización cardiaca; y 6) nuevo algoritmo para una estrategia combinada de diagnóstico y tratamiento de la IC aguda según la presencia o ausencia de congestión e hipoperfusión.

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Background

New clinical practice guidelines (CPG) for heart failure (HF) have recently been published by the European Society of Cardiology.¹ The objective of this article is to review these recommendations, their level of evidence and their main developments.² Compared to the 2012 guidelines,³ the 2016 guidelines have increased their size (from 61 to 85 pages) and changed the structure, title and organization of a number of chapters. The number of recommendations has also increased substantially (from 124 to 188), especially the sections on diagnosis, comorbidities and acute HF (AHF) (Table 1).

The proportion of recommendations in CPGs with a high level of scientific evidence (level A) is usually low.⁴ The 2012 CPGs had a low proportion of Type I-A recommendations (29 of 124, 23%), with a predominance of level of evidence C recommendations (45%) over level A recommendations (35%).⁵ To assess whether the 2016 CPGs have improved the level of evidence, we analyzed and classified its 188 recommendations according to the levels of scientific evidence and degree of recommendation. In Table 1, we can see that the increase in the number of recommendations is mainly at the expense of level B (30%) and C (49%) recommendations. The proportion of level A recommendations is still less than that of 2012 (only 21%).

Main developments

The main developments of the 2016 CPGs, which are summarized in Table 2, are as follows.

New term: heart failure with “Mid-range left ventricular ejection fraction”

The most widely used terminology for reporting and classifying HF is based on the left ventricular ejection fraction (LVEF). Two types have classically been considered: HF with normal LVEF ($\geq 50\%$) or preserved (HFpEF) and HF with reduced LVEF ($< 40\%$; HFrEF). Patients with LVEF between 40% and 49% represented a “gray area” that, according to the new CPGs, constitute a new group: HF with mid-range LVEF (HFmrEF). The proposed diagnostic criteria are very similar to those of HFpEF: (1) presence of signs/symptoms

of HF; (2) LVEF 40–49%; (3) high natriuretic peptide levels (BNP > 35 pg/mL or NT-proBNP > 125 pg/mL) and at least one echocardiographic criterion (ventricular hypertrophy, left atrial dilation or signs of diastolic dysfunction). The identification of HFmrEF as a separate group should stimulate research designed to determine the clinical characteristics, treatment and prognosis of this type of patient.

New algorithm for diagnosing chronic heart failure: clinical probability of heart failure

The diagnostic algorithm for HF has been modified significantly compared with the 2012 version. In the current guidelines, the algorithm distinguishes between patients with acute or chronic HF. For chronic patients, the new guidelines introduce the assessment of the clinical probability of HF based on the medical history (coronary artery disease, arterial hypertension, use of diuretics), presentation symptoms (orthopnea and paroxysmal nocturnal dyspnea), physical examination (jugular vein engorgement, displacement of the apex beat, murmurs) and electrocardiogram findings. If all these elements are normal, the diagnosis of HF is highly unlikely, and alternative diagnoses need to be considered. Whether one of the elements is abnormal, the plasma concentration of natriuretic peptides needs to be measured, if possible, to identify patients who require echocardiography. The echocardiogram is indicated if the peptide levels are not available or if its values are above the diagnostic cutoff.

New section: preventing or delaying the progression to heart failure

The new guidelines put greater emphasis on measures aimed at preventing HF or delaying its onset. Thus, the guidelines introduced a new section of specific recommendations focused on treating the risk factors, mainly arterial hypertension, diabetes and dyslipidemia. The guidelines also recommend treating the asymptomatic systolic left ventricular dysfunction (especially if there is a prior history of myocardial infarction) with angiotensin-converting enzyme inhibitors (ACEI) and beta-blockers, as well as placing implantable defibrillators to prevent sudden death.

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