

Global Spotlights

The ‘Ten Commandments’ of the 2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure

Marianna Adamo ^{1,*}, Roy S. Gardner², Theresa A. McDonagh³, and Marco Metra ¹

¹ASST Spedali Civili di Brescia, Brescia, Department of Medical and Surgical Specialties, Radiological Sciences, and Public Health, University of Brescia, Brescia, Italy; ²Scottish National Advanced Heart Failure Service, Golden Jubilee National Hospital, Clydebank, Glasgow, UK; and ³Cardiology Department, King’s College Hospital, Denmark Hill, London, UK

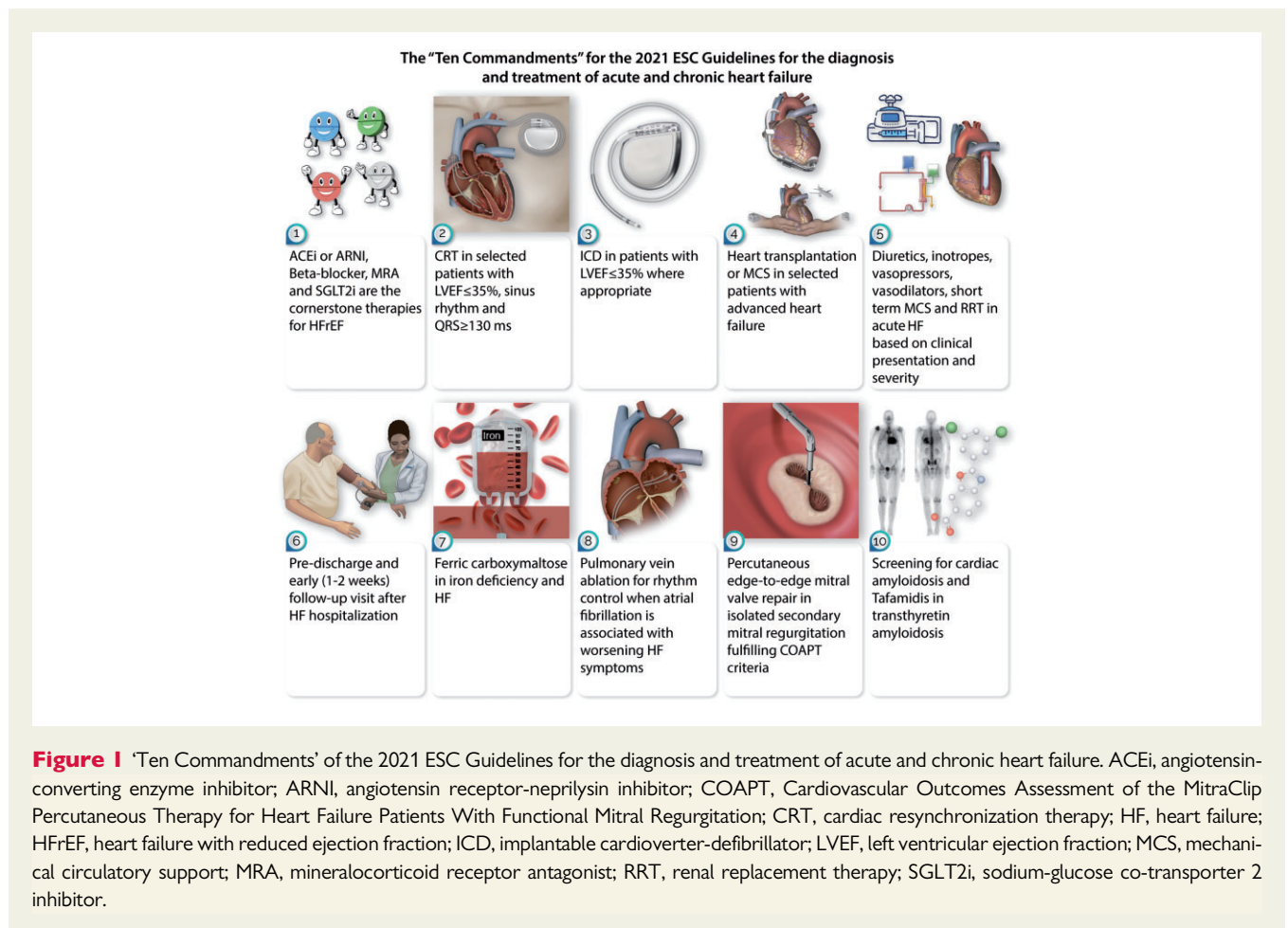


Figure 1 ‘Ten Commandments’ of the 2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure. ACEi, angiotensin-converting enzyme inhibitor; ARNI, angiotensin receptor-neprilysin inhibitor; COAPT, Cardiovascular Outcomes Assessment of the MitraClip Percutaneous Therapy for Heart Failure Patients With Functional Mitral Regurgitation; CRT, cardiac resynchronization therapy; HF, heart failure; HFrEF, heart failure with reduced ejection fraction; ICD, implantable cardioverter-defibrillator; LVEF, left ventricular ejection fraction; MCS, mechanical circulatory support; MRA, mineralocorticoid receptor antagonist; RRT, renal replacement therapy; SGLT2i, sodium-glucose co-transporter 2 inhibitor.

* Corresponding author. Tel: +393897834503, Email: mariannaadamo@hotmail.com

Published on behalf of the European Society of Cardiology. All rights reserved. © The Author(s) 2021. For permissions, please email: journals.permissions@oup.com.

The 10 main messages of the new guidelines for the diagnosis and treatment of acute and chronic heart failure (Figure 1) are:

- (1) An angiotensin-converting enzyme inhibitor or angiotensin receptor-neprilysin inhibitor, a beta-blocker, a mineralocorticoid receptor antagonist, and a sodium-glucose co-transporter 2 inhibitor are recommended as cornerstone therapies to reduce mortality and heart failure (HF) hospitalizations for all patients with HF with reduced ejection fraction and may be considered in patients with HF with mildly reduced ejection fraction.
- (2) In patients with left ventricular ejection fraction (LVEF) $\leq 35\%$, in sinus rhythm, cardiac resynchronization therapy is recommended when there is a left bundle branch block (LBBB) and QRS duration >150 ms; should be considered in cases of LBBB and QRS duration between 130 and 149 ms, or non-LBBB and QRS duration >150 ms; and may be considered in patients with non-LBBB and QRS duration of 130–149 ms.
- (3) In patients with LVEF $\leq 35\%$, an implantable cardioverter-defibrillator is recommended in cases of ischaemic aetiology and should be considered in cases of a non-ischaemic aetiology, where appropriate.
- (4) In selected patients with advanced HF refractory to medical therapy, heart transplantation is recommended, and mechanical circulatory support should be considered.
- (5) Treatment of acute HF includes treatment of specific causes (i.e. acute coronary syndrome, hypertension emergency, arrhythmia, mechanical cause, pulmonary embolism, infection, tamponade) and diuretics, vasodilators, inotropes, vasopressors, short-term mechanical support, and renal replacement therapy. The indications for these treatments and their timing differ according to the clinical presentation (i.e. acute decompensated HF, acute pulmonary oedema, isolated right ventricular failure and cardiogenic shock) and its severity.
- (6) A pre-discharge visit and an early follow-up visit, at 1–2 weeks following discharge from a HF hospitalization, is recommended to assess signs of congestion, drug tolerance, and start and/or up-titrate evidence-based therapies
- (7) It is recommended that patients with HF are periodically screened for anaemia and iron deficiency. Intravenous iron supplementation with ferric carboxymaltose should be considered if the serum ferritin is <100 ng/mL or if the serum ferritin is 100–299 ng/mL with transferrin saturation $<20\%$ in symptomatic patients with LVEF $<45\%$ to improve symptoms and quality of life, and in patients recently hospitalized for HF and with LVEF $<50\%$ to reduce the risk of HF rehospitalization.
- (8) Pulmonary vein ablation should be considered for rhythm control when atrial fibrillation is associated with worsening symptoms of HF.
- (9) Patients with HF and secondary mitral regurgitation need to be evaluated by the Heart Team. If fulfilling criteria for outcome improvement, they should be considered for percutaneous edge-to-edge mitral valve repair.
- (10) Patients with 'red flags', such as HF in ≥ 65 years and an increased left ventricular wall thickness, should be screened for cardiac amyloidosis. Tafamidis is recommended in patients who have New York Heart Association class I or II symptoms and transthyretin-cardiac amyloidosis to reduce symptoms, cardiovascular hospitalization, and mortality.

Conflict of interest: M.A. reports personal fees from Abbott and Medtronic for speeches at sponsored meetings in the last 3 months. R.S.G. reports personal fees from Abbott, Astra Zeneca, Boehringer Ingelheim, Boston Scientific, Novartis, Pharmacosmos, Servier, and Vifor as a member of Trial Steering Committees, or for lectures at sponsored meetings in the last 3 years. T.A.M. reports personal fees from Astra Zeneca, Corpus, Pfizer, Novartis, and Vifor as a member of Trial Steering Committees, or for lectures at sponsored meetings in the last 3 years. M.M. reports personal fees from Actelion, Amgen, Astra Zeneca, Abbott, Bayer, Servier, Edwards Therapeutics, Livanova, Vifor pharma, WindTree Therapeutics, as member of Trials' Committees or for speeches at sponsored meetings in the last 3 years.