Srovnání ESC a ACC/AHA/HFSA guidelines pro diagnostiku a léčbu srdečního selhání

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	Nemám konflikt zájmů	Mám konflikt zájmů	Specifikace konfliktu (vyjmenujte subjekty, firmy či instituce, se kterými Vaše spolupráce může vést ke konfliktu zájmů)
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REVIEW

Head-to-head comparison between recommendations by the ESC and ACC/AHA/HFSA heart failure guidelines

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ESC GUIDELINES

2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure

Developed by the Task Force for the diagnosis and treatment of acute and chronic heart failure of the European Society of Cardiology (ESC)

With the special contribution of the Heart Failure Association (HFA) of the ESC

128 stran

Circulation

AHA/ACC/HFSA CLINICAL PRACTICE GUIDELINE

2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines

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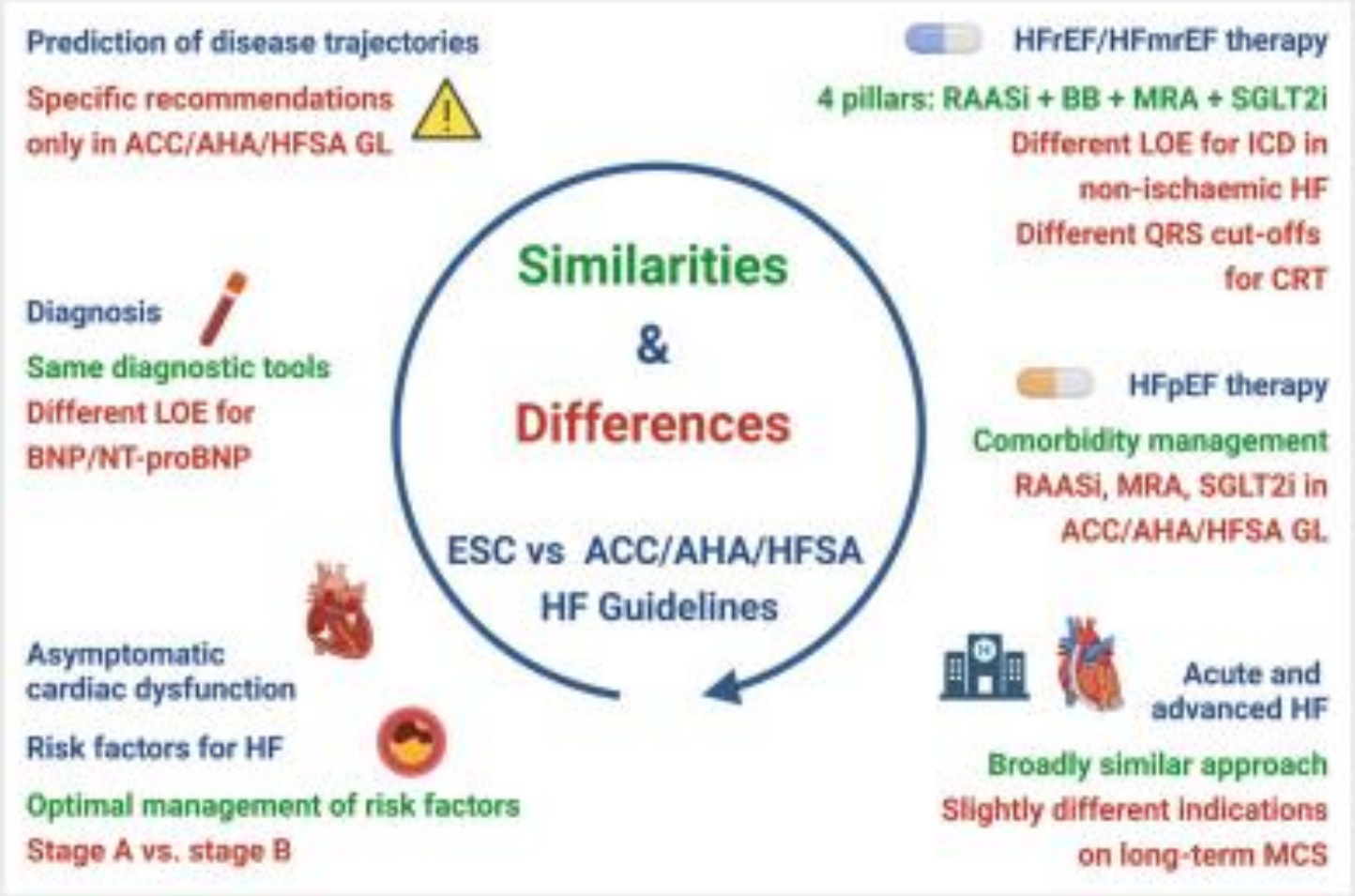

Main similarities and differences between the European Society of Cardiology (ESC) and American College of Cardiology/American Heart Association/Heart Failure Society of America (ACC/AHA/HFSA) heart failure (HF) guidelines. See text for details. ARNI, angiotensin receptor–neprilysin inhibitor; BNP, B-type natriuretic peptide; CRT, cardiac resynchronization therapy; GL, guidelines; HFmrEF, heart failure with mildly reduced ejection fraction; HFpEF, heart failure with preserved ejection fraction; HFrEF, heart failure with reduced ejection fraction; ICD, implantable cardioverter defibrillator; LOE, level of evidence; MCS, mechanical circulatory support; MRA, mineralocorticoid receptor antagonist; NT-proBNP, N-terminal pro-B-type natriuretic peptide; RAASi, renin–angiotensin–aldosterone system inhibitor; SGLT2i, sodium–glucose co-transporter 2 inhibitor.

ACC/AHA/HFSA	ESC
GDMT for HFrEF now includes four medication classes which include SGLT2i	ACEi/ARNI, beta-blocker, MRA and SGLT2i are recommended as cornerstone therapies for HFrEF and may be considered in patients with HFmrEF
SGLT2i have a 2a recommendation in HFmrEF. Weaker recommendations (2b) are made for ARNI, ACEi, ARB, MRA and beta-blockers in this population	
New recommendations for HFpEF are made for SGLT2i (2a), MRAs (2b) and ARNI (2b). Several prior recommendations have been renewed including treatment of hypertension (1), treatment of atrial fibrillation (2a), use of ARBs (2b) avoidance of routine use of nitrates or phosphodiesterase-5 inhibitors (3-no benefit)	In patients with HFpEF, screening and treatment of specific HF aetiologies and comorbidities is recommended
Improved LVEF is used to refer to those patients with a previous HFrEF who now have an LVEF >40%. These patients should continue their HFrEF treatment	–
Value statements were created for select recommendations where high-quality cost-effectiveness studies of the intervention have been published	–
Amyloid heart disease has new recommendations for treatment including screening for serum and urine monoclonal light chains, bone scintigraphy, genetic sequencing, tetramer stabilizer therapy, and anticoagulation	Diagnosis of CA includes search for serum and urine monoclonal light chains, bone scintigraphy and CMR and biopsy, in selected cases. Tafamidis is recommended in patients who have ATTR-CA and NYHA class I–II symptoms to reduce symptoms, cardiovascular hospitalization, and mortality

ACC, AHA HFSA	ESC
Evidence supporting increased filling pressures is important for the diagnosis of HF if LVEF is >40%. Evidence for increased filling pressures can be obtained from non-invasive (e.g. natriuretic peptide, diastolic function on imaging) or invasive testing (e.g. haemodynamic measurement)	Definition and diagnosis of HFpEF includes symptoms ± signs of HF, LVEF ≥50%, objective evidence of cardiac structural and/or functional abnormalities consistent with the presence of LV diastolic dysfunction/raised LV filling pressures, including raised natriuretic peptides
Patients with advanced HF who wish to prolong survival should be referred to a team specializing in HF. A HF specialty team reviews HF management, assesses suitability for advanced HF therapies and uses palliative care including palliative inotropes where consistent with the patient's goals of care	In selected patients with advanced HF refractory to medical therapy, mechanical circulatory support and heart transplantation should be considered
Primary prevention is important for those at risk for HF (stage A) or pre-HF (stage B). Stages of HF were revised to emphasize the new terminologies of 'at risk' for HF for stage A and pre-HF for stage B	Antihypertensive drugs, statins, SGLT2i, healthy lifestyle advice are recommended to prevent or delay the onset of HF
Recommendations are provided for select patients with HF and anaemia/iron deficiency, anaemia, hypertension, sleep disorders, type 2 diabetes, atrial fibrillation, coronary artery disease and malignancy	Recommendations are provided for select patients with HF and anaemia/iron deficiency, hypertension, sleep disorders, type 2 diabetes, atrial fibrillation, coronary artery disease and malignancy

Table 2 Most prominent differences between the European Society of Cardiology (ESC) and American College of Cardiology/American Heart Association/Heart Failure Society of America (ACC/AHA/HFSA) guidelines

Topics	Main differences
Prevention	Differentiation between stage A and B with clear recommendations for each stage (ACC/AHA/HFSA) vs. recommendations for patients 'at risk' (ESC)
Diagnostic tools	LOE for NP testing (1 A for ACC/AHA/HFSA, I B for ESC)
Characterization of HF aetiology	EMB indicated in 'patients with rapidly progressive HF despite standard therapy' (ESC) or 'when a specific diagnosis is suspected' (ACC/AHA/HFSA)
Risk stratification	NPs and risk prediction tools only recommended by ACC/AHA/HFSA
Drug treatment for HFrEF	- LOE for sacubitril/valsartan (1 A for ACC/AHA/HFSA, I B for ESC) - Digoxin only on top of GDMT for HF + sinus rhythm (ESC) or also to patients unable to tolerate GDMT ± sinus rhythm (ACC/AHA/HFSA) - Stronger recommendation for hydralazine/isosorbide dinitrate in ACC/AHA/HFSA (1 A vs. IIa B in ESC)
Drug treatment for HFmrEF	- Different LOE for ACEi, ARB, beta-blockers, MRA, ARNI (C in ESC, B-NR in ACC/AHA/HFSA) - SGLT2i recommended only by ACC/AHA/HFSA
Drug treatment for HFpEF	Diuretics and optimal management of comorbidities (ESC) vs. SGLT2i, ARB, MRA, ARNI (ACC/AHA/HFSA)
Management of HFimpEF	Considered only in ACC/AHA/HFSA
Device treatment	- Stronger recommendation for ICD for primary prevention in non-ischaemic HF in ACC/AHA/HFSA (1 A vs. IIa A in ESC) - Different QRS duration cut-offs, different scenarios
Comorbidities	- Diabetes: sotagliflozin considered only by ESC - Iron deficiency and anaemia: recommendation of periodical screening by ESC only; stronger recommendation for i.v. iron replacement by ESC (IIa A/B vs. 2a B-R) - Formal sleep assessment in patients with suspected sleep-disordered breathing (ACC/AHA/HFSA)
General management, home telemonitoring	Attention to depression, isolation, frailty as determinants of poor HF care (ACC/AHA/HFSA)
Acute HF: management	Timing of follow-up visit: 1 week (ACC/AHA/HFSA) vs. 1–2 weeks (ESC)
Advanced HF	- Renal replacement therapy and ultrafiltration: considered by ESC only - Different indications to long-term MCS
End-of-life care	Formal recommendations by ACC/AHA/HFSA only
Quality of care, cost-effectiveness	Formal recommendations by ACC/AHA/HFSA only
Health disparities	Formal recommendations by ACC/AHA/HFSA only
Specific aetiologies	- Indications to tafamidis (ESC) or broader recommendations on diagnosis and management (ACC/AHA/HFSA) - HF in pregnancy: formal recommendations by ACC/AHA/HFSA only - Cancer therapy-related HF: therapies for HF due to cardiotoxic drugs (ESC: ACEi and beta-blocker, preferably carvedilol; ACC/AHA/HFSA: ARB, ACEi, beta-blocker)

ACEi, angiotensin-converting enzyme inhibitor; ARB, angiotensin receptor blocker; ARNI, angiotensin receptor–neprilysin inhibitor; EMB, endomyocardial biopsy; GDMT, guideline-directed medical therapy; HF, heart failure; HFimpEF, heart failure with improved ejection fraction; HFmrEF, heart failure with mildly reduced ejection fraction; HFpEF, heart failure with preserved ejection fraction; HFrEF, heart failure with reduced ejection fraction; ICD, implantable cardioverter defibrillator; i.v., intravenous; LOE, level of evidence; MCS, mechanical circulatory support; MRA, mineralocorticoid receptor antagonist; NP, natriuretic peptide; SGLT2i, sodium–glucose co-transporter 2 inhibitor.

Table 4 Recommendations on heart failure prevention

ESC			ACC/AHA/HFSA			
Tool for prevention	**Class**	**Level**	**HF stage**	**Tool for prevention**	**COR**	**LOE**
Treatment of hypertension	I	A	A	Treatment of hypertension	1	A
Treatment with statins	I	A		SGLT2i for T2DM	1	A
SGLT2i for T2DM	I	A		Healthy lifestyle advice	1	B-NR
Healthy lifestyle advice	I	C		NP screening	2a	B-R
				Validated risk scores	2a	B-NR
			B	ACEi if LVEF <40%	1	A
				Beta-blockers if LVEF <40%	1	C-LD
				ARB if intolerant to ACEi, LVEF <40%, recent MI	1	B-R
				Beta-blockers if LVEF <40% and recent or remote MI or ACS	1	B-R
				ICD if LVEF <30% after >40 days from MI	1	B-R
				Statins if recent or remote MI or ACS	1	A
				No thiazolidinediones if LVEF <50%	3: Harm	C-LD
				No non-dihydropyridine CCBs	3: Harm	C-LD

Note: A summary of the recommendations is provided in online supplementary *Table S1*.

ACC/AHA/HFSA, American College of Cardiology/American Heart Association/Heart Failure Society of America; ACEi, angiotensin-converting enzyme inhibitor; ACS, acute coronary syndrome; ARB, angiotensin receptor blocker; CCB, calcium channel blocker; COR, class of recommendation; ESC, European Society of Cardiology; HF, heart failure; ICD, implantable cardioverter defibrillator; LOE, level of evidence; LVEF, left ventricular ejection fraction; MI, myocardial infarction; NP, natriuretic peptide; SGLT2i, sodium–glucose co-transporter 2 inhibitor; T2DM, type 2 diabetes mellitus.

Table 5 Indications to cardiac resynchronization therapy

ESC			ACC/AHA/HFSA					
Patient profile	**Class**	**Level**	**Patient profile**	**COR**	**LOE**	**Patient profile**	**COR**	**LOE**
Symptomatic HF, sinus rhythm, QRS ≥150 ms, LBBB, LVEF ≤35%	I	A	NYHA class II–III or ambulatory IV, sinus rhythm, QRS ≥150 ms, LBBB, LVEF <35%	1	B-R	NYHA class I, sinus rhythm, QRS ≥150 ms, LBBB, LVEF <30% + ischaemic HF	2b	B-NR
Symptomatic HF, sinus rhythm, QRS ≥150 ms, no LBBB, LVEF ≤35%	IIa	B	NYHA class II–III or ambulatory IV, sinus rhythm, QRS ≥150 ms, no LBBB, LVEF <35%	2a	B-R			
Symptomatic HF, sinus rhythm, QRS 130–149 ms, LBBB, LVEF ≤35%	IIa	B	NYHA class II–III or ambulatory IV, sinus rhythm, QRS 120–149 ms, LBBB, LVEF <35%	2a	B-NR			
Symptomatic HF, sinus rhythm, QRS 130–149 ms, no LBBB, LVEF ≤35%	IIb	B	NYHA class III or ambulatory IV, sinus rhythm, QRS 120–149 ms, no LBBB, LVEF <35%	2b	B-NR	NYHA class I–II, sinus rhythm, QRS <150 ms, no LBBB, LVEF <35%	3: No Benefit	B-NR
QRS <130 ms, no indications to pacing	III	A	QRS <120 ms				3: No Benefit	B-R
HFrEF (regardless of QRS/NYHA class) with indication to RV pacing (±AF)	I	A						
Conventional PM/ICD, worsening HF following RV pacing	IIa	B						
			Expected RV pacing >40%				2a	B-NR
			Indications to RV pacing + LVEF 36%–50%				2a	B-R
			AF + LVEF <35% + criteria for ventricular pacing/CRT *or* total RV pacing				2a	B-NR

Note: A summary of the recommendations is provided in online supplementary *Table S1*.
ACC/AHA/HFSA, American College of Cardiology/American Heart Association/Heart Failure Society of America; AF, atrial fibrillation; COR, class of recommendation; CRT, cardiac resynchronization therapy; ESC, European Society of Cardiology; HF, heart failure; ICD, implantable cardioverter defibrillator; LBBB, left bundle branch block; LOE, level of evidence; LVEF, left ventricular ejection fraction; NYHA, New York Heart Association; PM, pacemaker; RV, right ventricular.

Závěr

ESC a ACC/AHA/HFSA doporučení jsou si velmi podobná, i když drobné rozdíly zde existují. Jde především o stupeň doporučení a úroveň znalostí. Existují asi 2 důvody pro tyto rozdíly. Především je to doba, kdy byla doporučení publikována, americká 2022, evropská 2021. Proto americká doporučení již mohla zahrnout výsledky významné studie EMPEROR Preserved.

Závěr

Americká doporučení se v diagnostice a léčbě opírají především o biomarkery, dále se více věnují terminálním stádiím onemocnění, kvalitě života a nákladům na léčbu.
Evropská doporučení se zase mnohem více věnují komorbiditám, především deficitu železa a renálnímu selhání.

ČAS NA ZMĚNU?

BIG 4 v léčbě CHSS

ARNI, BB, MRA, SGLT2

M.Packer: ESC Congress 2020

Děkuji za pozornost

References