

Řešení FiS ve specifických klinických situacích

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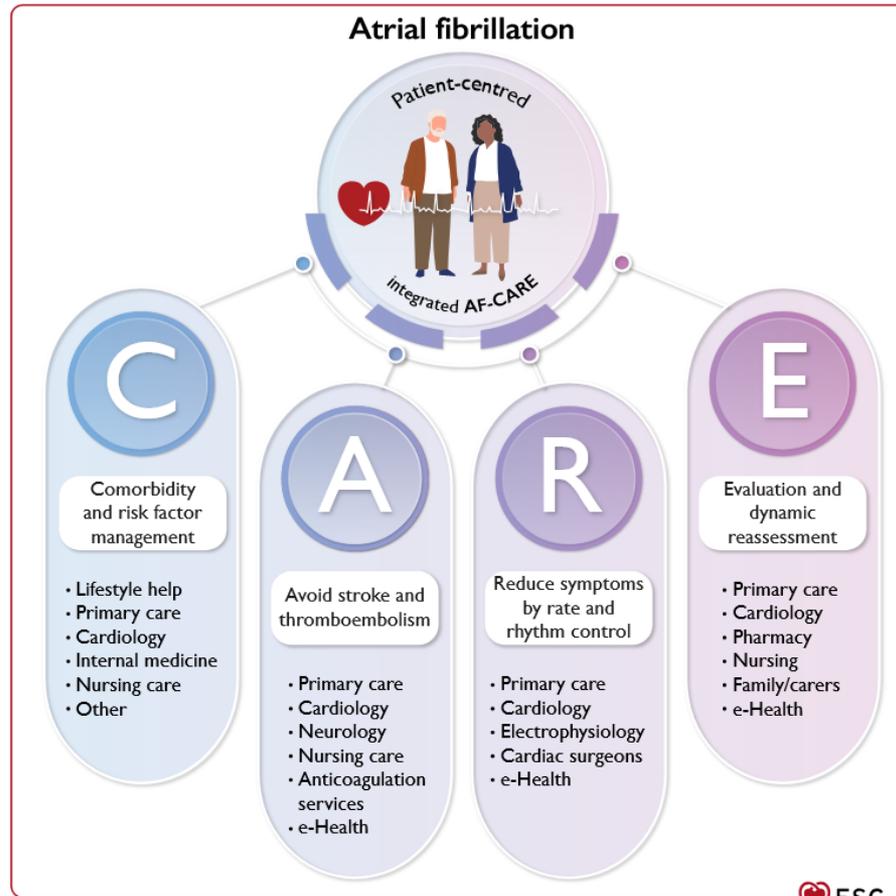
Developed by the task force for the management of atrial fibrillation of the European Society of Cardiology (ESC), with the special contribution of the European Heart Rhythm Association (EHRA) of the ESC.

Endorsed by the European Stroke Organisation (ESO)

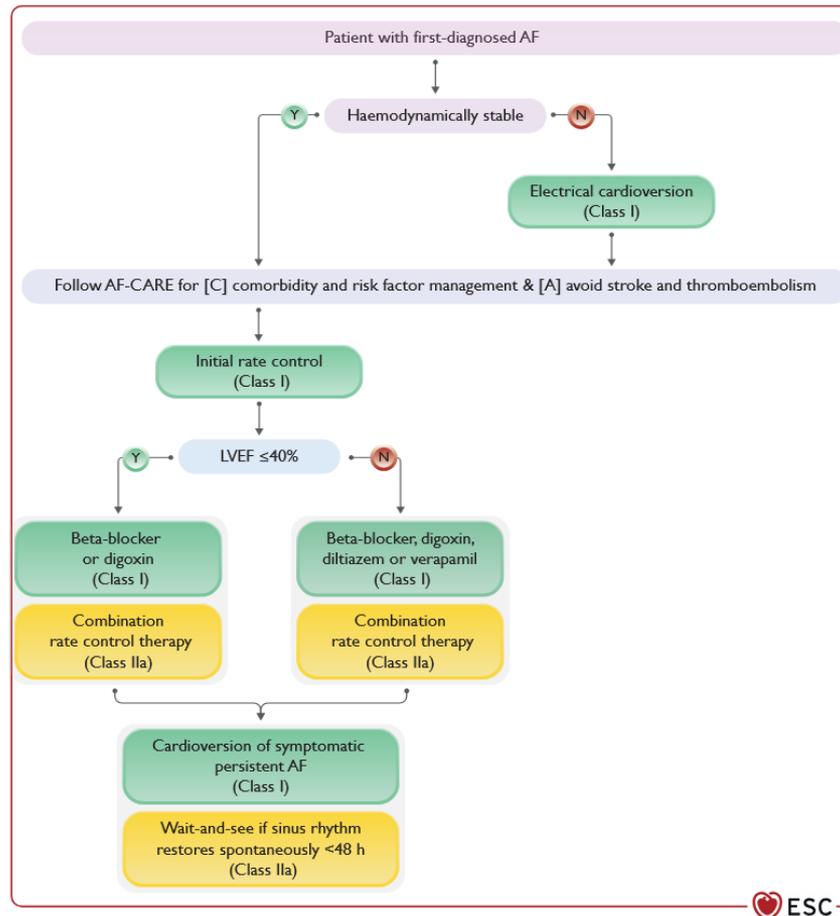
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AF-CARE ?



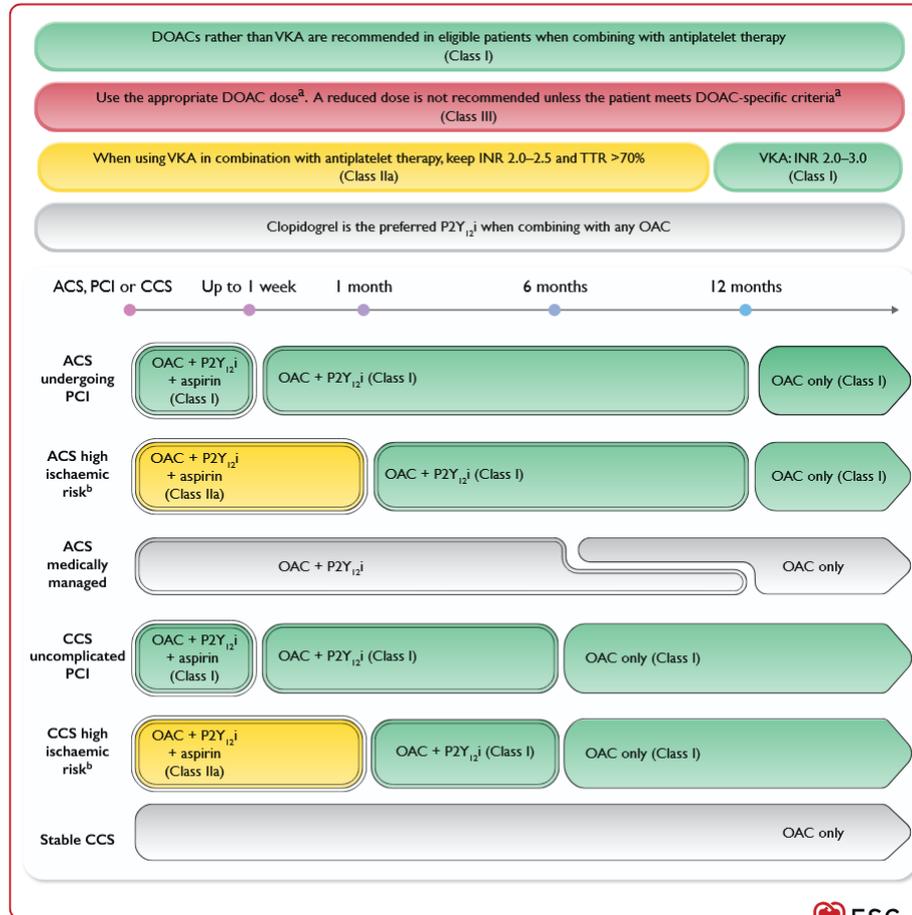
FiS a nestabilní pacient



FiS a nestabilní pacient

- **FiS jako hlavní příčina nebo FiS sekundárně u závažných stavů (sepsy, trauma, operace, SS)**
- **Spontánní verze zpět na SR až u 83 % pacientů v závislosti na primární příčině**
- **EKV první volba léčby**
- **Amiodaron druhá volba léčby**
- **Pro kontrolu frekvence preferenčně BB a amiodaron než digoxin a CCB**
(Bedford JP et al. J Crit Care 2022)

FiS a akutní a chronické koronární syndromy



FiS a srdeční selhání

Patients with heart failure

AF catheter ablation is recommended in patients with AF and HFrEF with high probability of tachycardia-induced cardiomyopathy to reverse left ventricular dysfunction.^{604,611}

I

B

AF catheter ablation should be considered in selected AF patients with HFrEF to reduce HF hospitalization and prolong survival.^{4,513,514,604,610,612}

IIa

B

FiS a srdeční selhání (HF rEF)

| | PABA-CHF [301] | MacDonald <i>et al.</i> [302] | ARC-HF [303] | CAMTAF [252] | AATAC [255] | CAMERA-MRI [250] | AMICA [304] | CASTLE-AF [256] | CABANA subanalysis [257] | RAFT-AF [253] | CASTLE HTx [260] |
|---------------------------------------|-----------------------------|-------------------------------|---|---------------------------------|---|---------------------------------|--------------------------------|--|--|--|---|
| Rhythm outcome (ablation vs. control) | 12 vs. 100% in AF | 50 vs. 100% in AF | 88 vs. 8% in SR | 19 vs. 100% in AF (at 6 months) | 70 vs. 34% free from AF | 25 vs. 100% in AF (at 6 months) | 73.5 vs. 50% in SR (at 1 year) | 63.1 vs. 21.7% in SR (at 5 years) | 44 vs. 28% w/o AF recurrence (at 5 years) | 85.6 vs. 12.9% in SR (at 2 years) | 31.4±33.3 vs. 8.6±26.3 AF burden reduction at 12 months |
| Main findings | Improved composite endpoint | No LVEF improvement | Significant increase in peak O ₂ consumption | LVEF improvement | Reduction in AF recurrence, unplanned hospitalizations, and mortality | LVEF improvement | No LVEF improvement | Reduction in all-cause death or HF hospitalization | Reduction in the primary composite, reduction in all-cause mortality, and improvement in QoL | Similar primary outcome (<i>P</i> =0.066) Increase in LVEF | Reduction in the primary composite endpoint |

AAD antiarrhythmic drug, AF atrial fibrillation, AFl atrial flutter, AT atrial tachycardia, AV atrioventricular, BiV biventricular, HF heart failure, LA left atrium, LS-pers long-standing persistent, LVEF left ventricular ejection fraction, MLWHF Minnesota Living with Heart Failure, NYHA New York Heart Association, Parox paroxysmal, Pers persistent, QoL quality of life, SR sinus rhythm

FiS a srdeční selhání

TABLE 27 Randomized Trials of Rhythm Control in HF

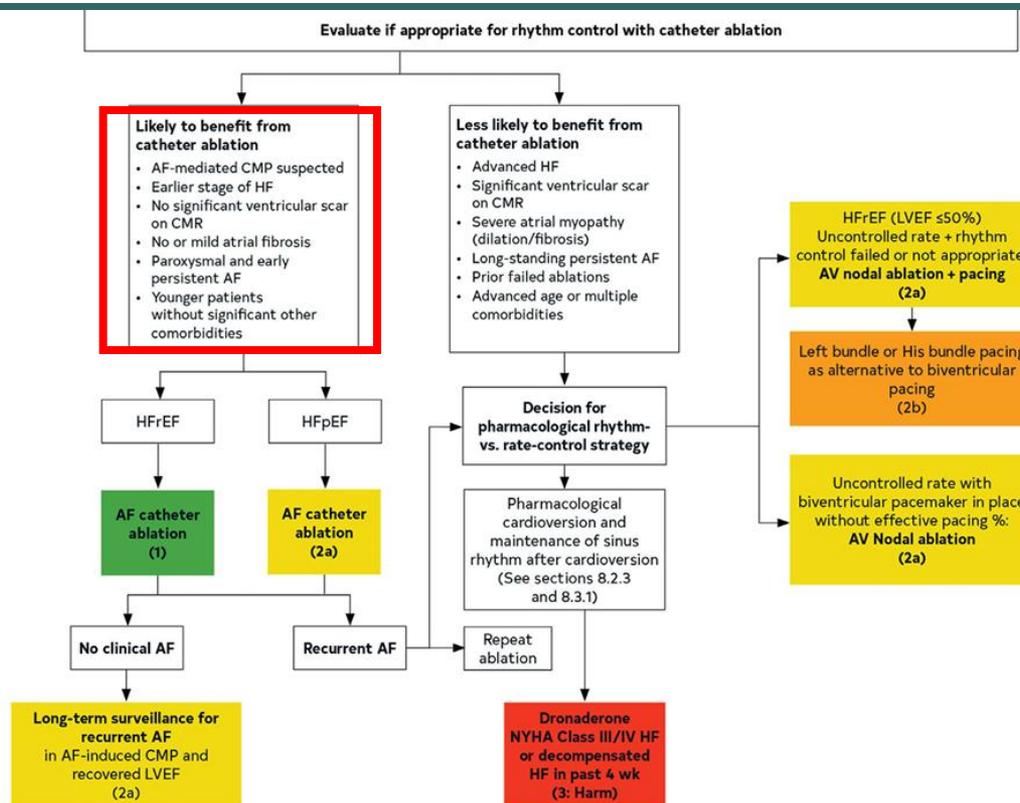
| Study/ Author (y) | No. Pts. | Inclusion | Exclusion | Intervention | Primary Outcome | Death and Hospitalization | | | Reduction in AF | | QOL | 6MWT | Peak VO ₂ Max | BNP | |
|---|----------|--|------------------|--|--|---|------------------|---------------|---------------------|---------------------|---------------------------|---------------------|--------------------------------|---------------------|--|
| | | | | | | Death | Hospitalizations | | LVEF | | | | | | |
| Roy (2008) ⁵⁰ | 1376 | LVEF <35%, CHF | | AAD (primarily amiodarone) vs rate control | Cardiovascular mortality was no different between rhythm vs rate control | No change | No difference | No difference | | | | | | | |
| MacDonald (2011) ⁸ | 41 | Persistent AF; LVEF <35%, CHF II-IV | PAF; QRS >150 | RF to medical therapy | Similar increase in CMR LVEF | | | No difference | Improved with RF | Improved | No change | No change | | | |
| ARC-HF; Jones (2013) ⁶ | 52 | Persistent AF; LVEF <35%, CHF | | RF to medical therapy | Improvement in peak VO ₂ with RF | No change | No difference | No difference | | No change | Improved with RF | No change | Improved | | |
| CMTAF (2014) ⁹ | 50 | Persistent AF; LVEF <50%; CHF | | RF to medical therapy | LVEF significantly improved with RF | No change | No difference | | | Improved | Improved with RF | | Improved | | |
| AATAC (2016) ⁴ | 203 | Persistent AF; LVEF <40%, CHF II-III | | RF to amiodarone | At 24 mo, RF patients more likely to be in NSR | Improvement with RF | Improved | Improved | | Improved | Improved with ablation | Improved | | | |
| CAMERA MRI (2017) ¹² | 66 | Persistent AF; LVEF <45%, CHF II-III; idiopathic CM | | RF to medical therapy | Improved LVEF with RF | | | | | Improved | No change | No change | | Improved | |
| CASTLE-AF (2018) ⁹ | 363 | PAF or persistent AF; LVEF <36%, CHF II-IV and ICD | | RF to medical therapy | Composite of death and hospitalization lower with RF | Improvement with RF | Improved | Improved | | Improved | | | | | |
| AMICA (2019) ⁷ | 140 | Persistent AF; LVEF <36% | | RF to medical therapy | No difference in change in LVEF | | | | | No change | No change | No change | | No change | |
| CABANA substudy (2021) ¹⁴ | 778 | Clinical HF (largely HFpEF) | | RF to medical therapy | Decrease in composite of MACE | | Improved | | | Improved with RF | Improved with RF | | | | |
| RAFT-AF (2022) ¹¹ | 411 | ≥4 PAF/y or persistent AF, NYHA class II or III HF, elevated pro- BNP | | RF to medical therapy | No difference in change in mortality/HF | No difference in change in mortality/HF | No change | No change | Improved with RF | Improved with RF | Improved with RF | Improved with RF | | Improved with RF | |
| Meta- analysis- Turagam (2019) ¹³ | 775 | | | RF to medical therapy | | | Improved | Reduced | | Improved | Improved | Improved | | Improved | |
| Meta- analysis- Chen (2020) ³ | 1112 | | | RF to medical therapy | | | Improved | Reduced | | Improved with RF | Improved | Improved | | | |
| Meta- analysis- Pan (2021) ¹⁰ | 775 | | | RF to medical therapy | | | Improved | Reduced | | Improved | Improved | Improved | | | |

AAD indicates antiarrhythmic drug; AATAC, Ablation vs Amiodarone for Treatment of Atrial Fibrillation in Patients With Congestive Heart Failure and an Implanted ICD/CRTD; AF, atrial fibrillation; AMICA, Atrial Fibrillation Management in Congestive Heart Failure With Ablation; ARC-HF, A Randomized Trial to Assess Catheter Ablation Versus Rate Control in the Management of Persistent Atrial Fibrillation in Chronic Heart Failure; BNP, brain natriuretic peptide; CABANA, Catheter Ablation vs Antiarrhythmic Drug Therapy for Atrial Fibrillation; CAMERA MRI, Catheter Ablation versus Medical Rate Control in Atrial Fibrillation and Systolic Dysfunction-an MRI-Guided Multi-centre Randomised Controlled Trial; CMTAF, Catheter Ablation Versus Medical Treatment of AF in Heart Failure; CASTLE-AF, Catheter Ablation versus Standard Conventional Therapy in Patients with Left Ventricular Dysfunction and Atrial Fibrillation; CHF, congestive heart failure; CM, cardiomyopathy; CMR, cardiac magnetic resonance; HF, heart failure; HFpEF, heart failure with persistent ejection fraction; ICD, implantable cardioverter-defibrillator; LVEF, left ventricular ejection fraction; MACE, major adverse cardiovascular events; NSR, normal sinus rhythm; NYHA, New York Heart Association; PAF, paroxysmal atrial fibrillation; QOL, quality of life; RAFT-AF, Rhythm Control-Catheter Ablation With or Without Anti-arrhythmic Drug Control of Maintaining Sinus Rhythm Versus Rate Control With Medical Therapy and/or Atrio-ventricular Junction Ablation and Pacemaker Treatment for Atrial Fibrillation; RF, radiofrequency; VO₂ max, maximal oxygen consumption; 6MWT, 6-minute walk test.

FiS a srdeční selhání

- **Ablační léčba u pacientů s HFrEF signifikantně snižuje rekurenci FiS a zvyšuje EF LK**
- **U selektovaných podskupin pacientů příznivě ovlivňuje klinický vývoj a mortalitu**
- **Ablační léčba u pacientů HFpEF - výsledky studií zatím méně přesvědčivé, nicméně se předpokládá podobně příznivý efekt jako u pacientů s HFrEF**

FiS a srdeční selhání



Colors correspond to [Table 2](#). AF indicates atrial fibrillation; AV, atrioventricular; CMP, cardiomyopathy; CMR, cardiac magnetic resonance; GDMT, guideline-directed medical therapy; HF, heart failure; HFpEF, heart failure with preserved ejection fraction; HFrEF, heart failure with reduced ejection fraction; IV, intravenous; LVEF, left ventricular ejection fraction; NDCC, nondihydropyridine calcium channel blocker; and NYHA, New York Heart Association.

FiS a těhotenství

- **EKV k terminaci FiS u hemodynamické nestability nebo u preexcitované FiS (I C)**
- **LMWH nebo warfarin /KI: první trimestr a po 36 týdnu/ (I C)**
- **β -1 selektivní BB (mimo atenololu) ke kontrole frekvence (I C), případně digoxin a verapamil (KI: první trimestr)**
- **Kontrola rytmu – flekainid, propafenon u žen bez srdečního strukturálního onemocnění (IIb C)**
- **Možnost KA bez fluoroskopie**

FiS a endokrinopatie

- **Hyperthyreóza**
- **Subklinická hyperthyreóza/hypothyreóza**
- **Amiodarone (vede k dysfunkci ŠŽ v 15% - 20%)**
- **Hyperkalcémie/hyperparathyreóza**
- **Primární aldosteronismus**
- **Akromegálie**
- **Diabetes mellitus I. i II. typu**
- **↑ riziko FiS, případně i riziko vzniku CMP**
- **Léčba základní dg. nutná**

FiS a malignity

- **↑ riziko FiS s prevalencí 2% - 28%**
- **Chirurgická léčba, radioterapie, chemoterapie**
- **Riziko systémového tromboembolismu a CMP zvýšeno dvojnásobně; riziko SS zvýšeno šestinásobně**
(Farmakis D et al. JACC 2014)
- **Průběžná, opakovaná aktualizace rizikové stratifikace**
- **DOAK vs. Warfarin – stejná účinnost, lepší bezpečnost**
(Mariani MV et al. J Thromb Thrombolysis 2021)
- **CAVE! chemoterapie + AA a riziko prodloužení QT**
- **Individuální přístup k nefarmakologické léčbě**

FiS a stáří, polymorbidita a křehkost

- **Prevalence FiS je u této populace 48% - 75%**
(Villani ER et al. Eur J Intern Med 2018)
- **Méně podáváme antikoagulancia a méně volíme strategii kontroly rytmu**
- **Pacienti jsou málo nebo vůbec zastoupeni v klinických studiích → nedostatek dat**
- **Nemocní dlouhodobě stabilní na warfarinu → ponechat na této léčbě než převádět na DOAK (IIb B)**
- **Vysoce individuální přístup k veškerým možnostem nefarmakologické léčby**

Závěr

- **Nová doporučení 2024 u specifických klinických situacích spíše poukazují na řadu nezodpovězených otázek**
- **Čekáme se na výsledky probíhajících studií**