



**Program za napredovalo srčno popuščanje
in transplantacije srca**
KO za kardiologijo
UKC Ljubljana

SRČNO POPUŠČANJE - Sodobna medikamentozna obravnava

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Marec 2024



VSEBINA

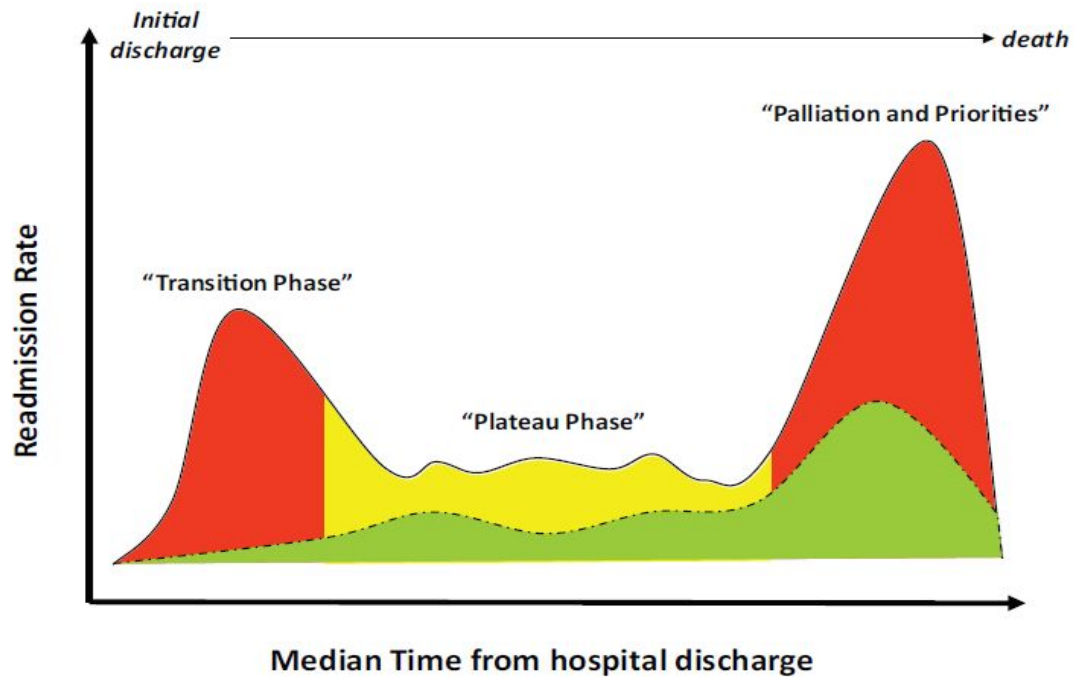
- Uvod
- HFrEF
- HFpEF
- Primeri bolnikov
- Zaključki



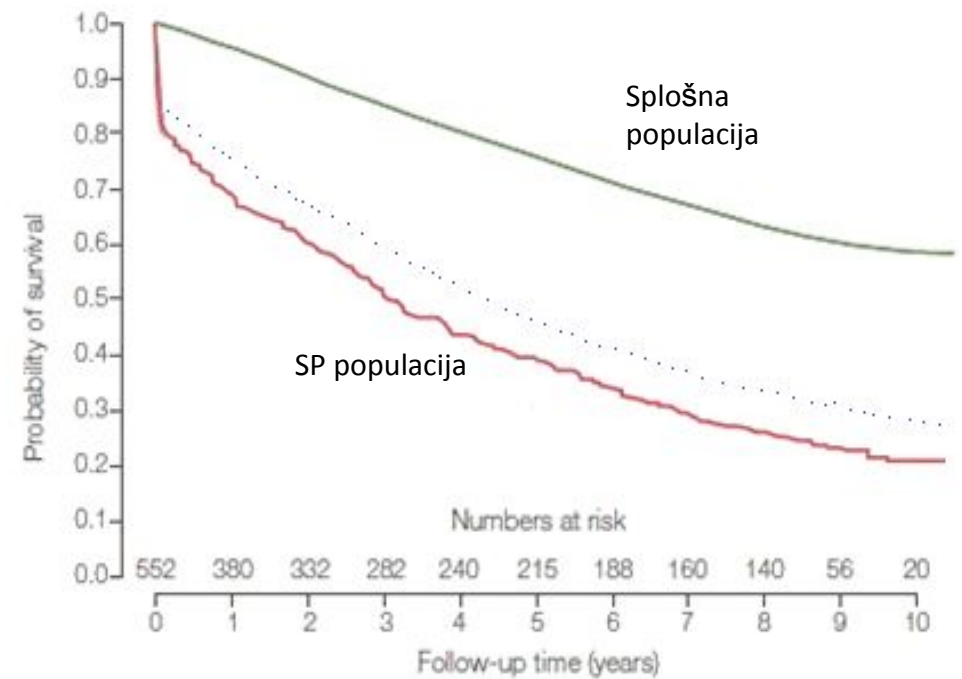
UVOD

Prognoza bolnikov s SP je še suboptimalna.

REHOSPITALIZACIJE



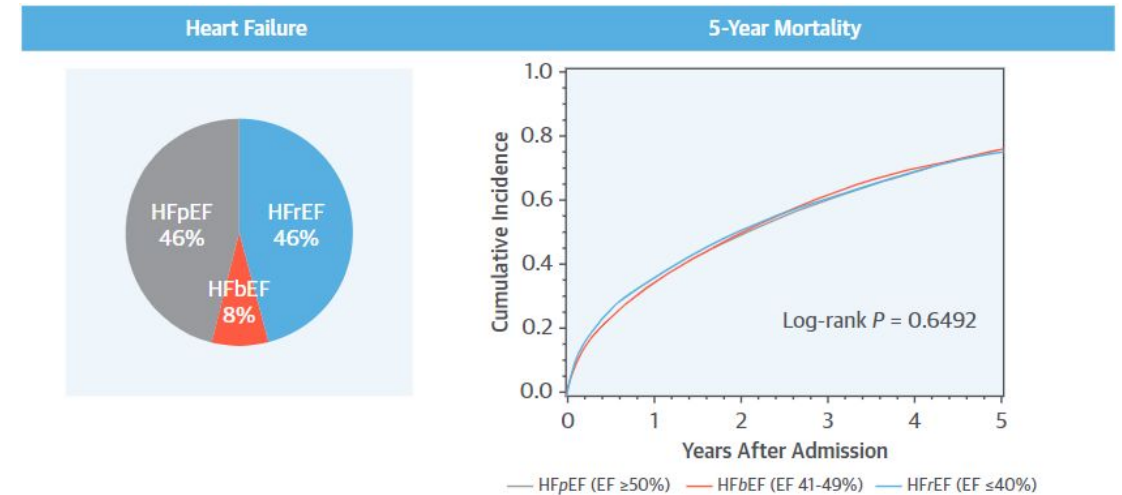
UMRLJIVOST



UVOD



Sprememba v prevalenci fenotipov SP – podobna umrljivost

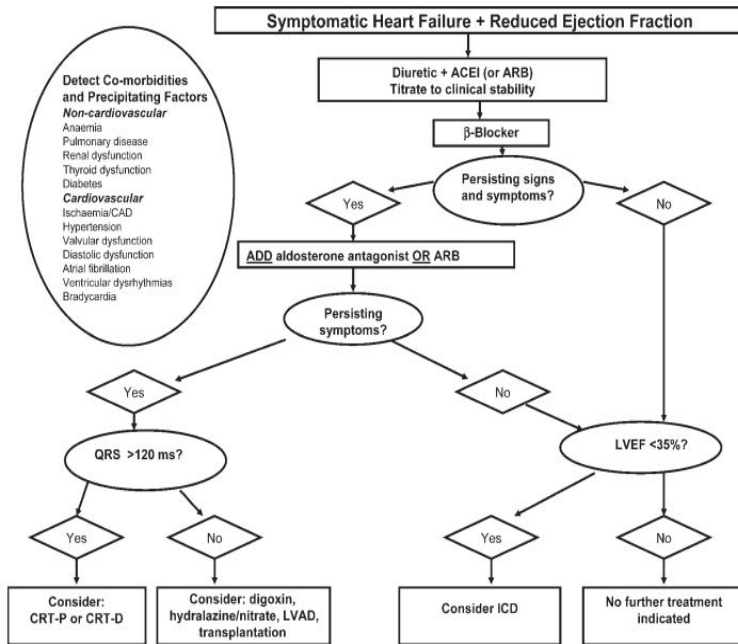


Outcomes - 5-Year Event Rates (%)					
	Mortality	Readmission	CV Readmission	HF Readmission	Mortality/Readmission
HFrEF	75.3	82.2	63.9	48.5	96.4
HFbEF	75.7	85.7	63.3	45.2	97.2
HFpEF	75.7	84.0	58.9	40.5	97.3



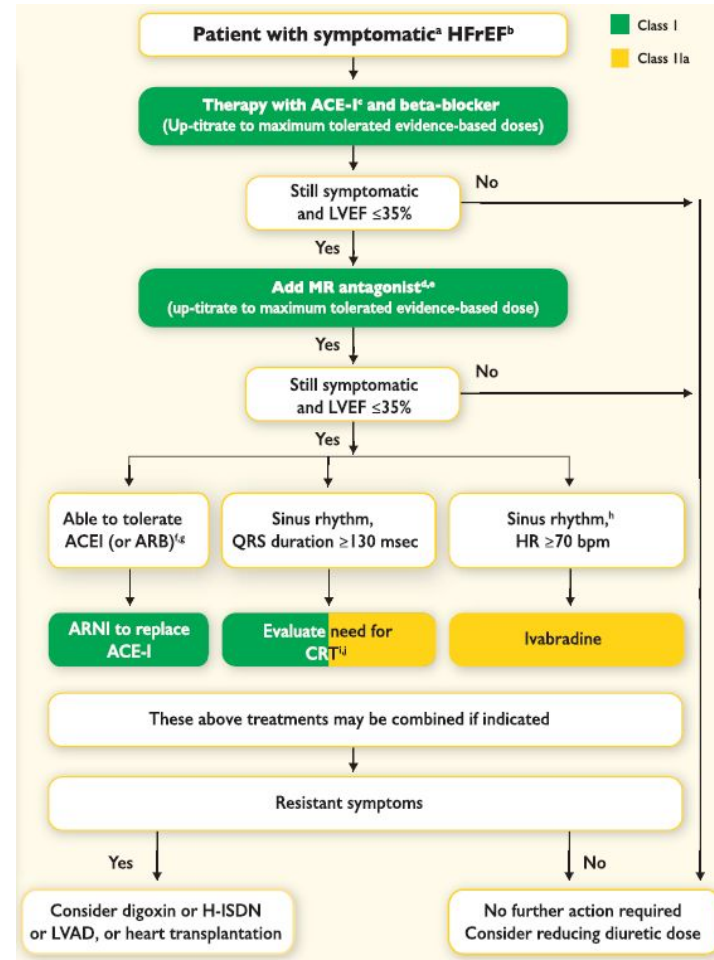
Zdravljenje HFrEF

2008



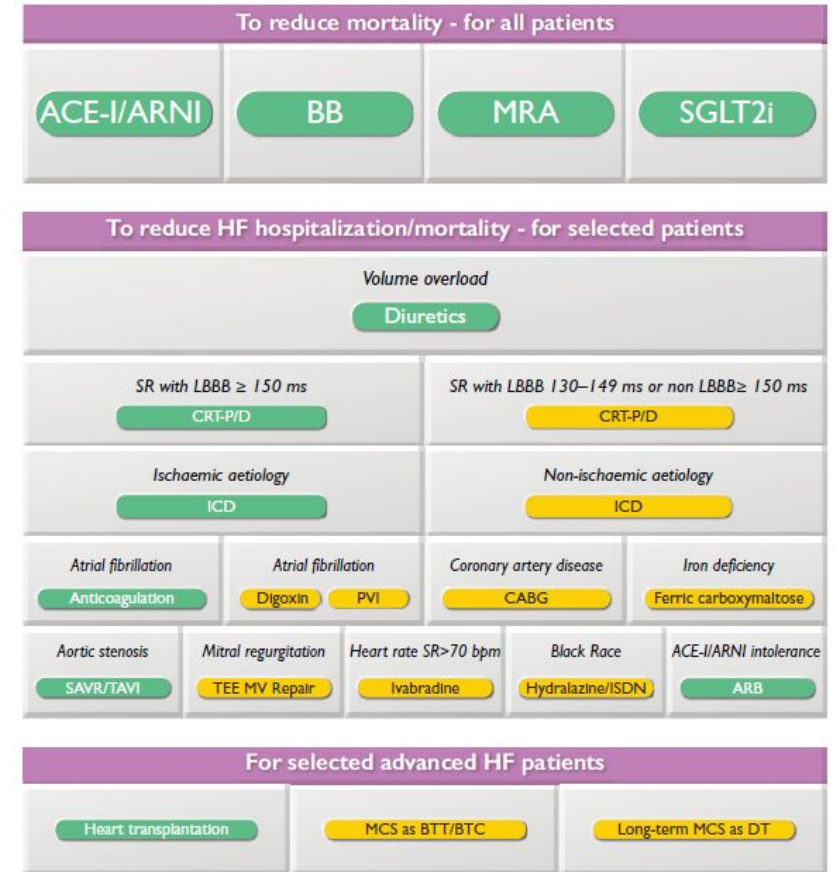
Dickstein et al. EHJ 2008

2016



Ponikowski et al. EHJ 2016

2021

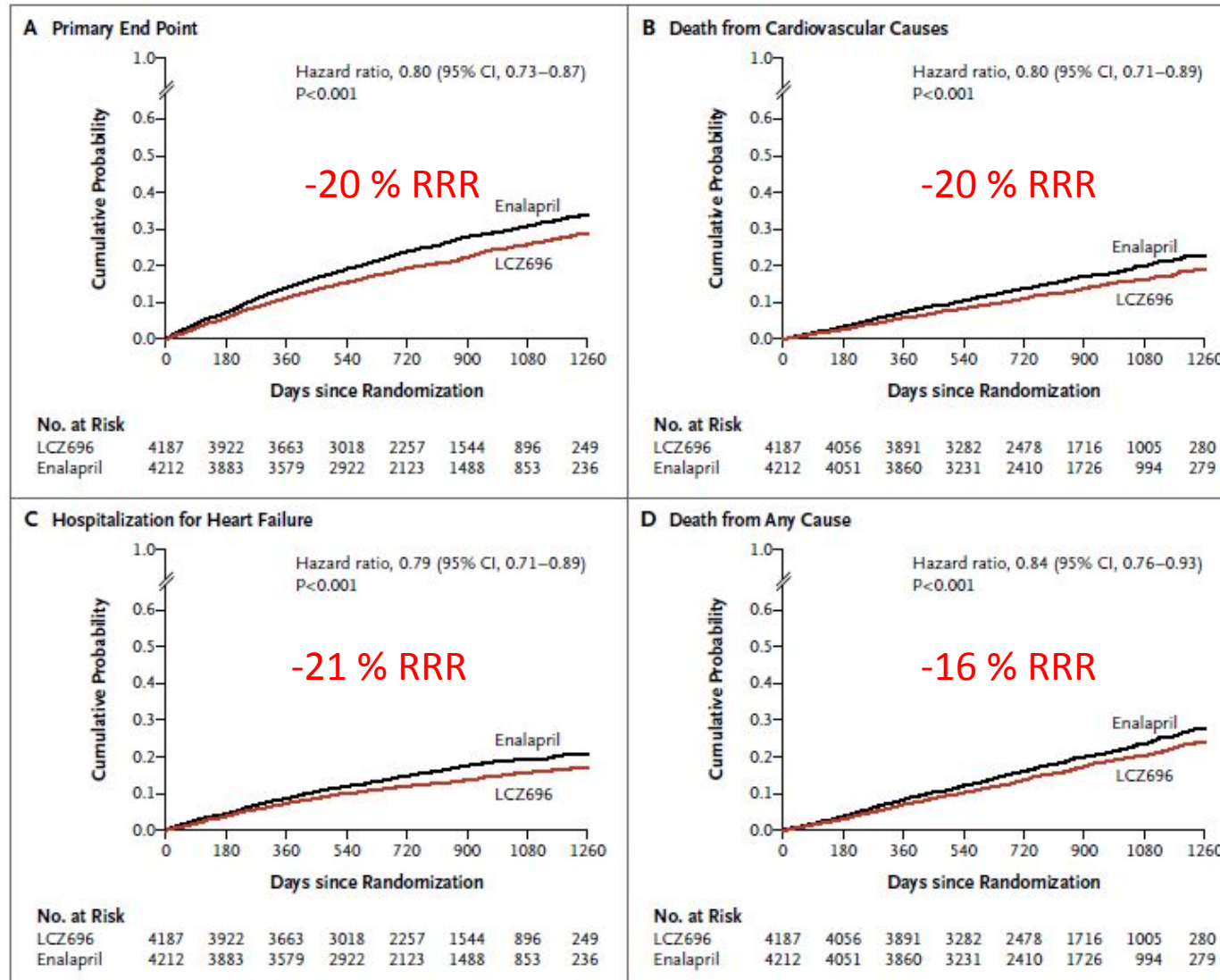


McDonagh et al. EHJ 2021

TRITIRNA SEKVENČNA TERAPIJA → SOČASNA ŠTIRITIRNA TERAPIJA



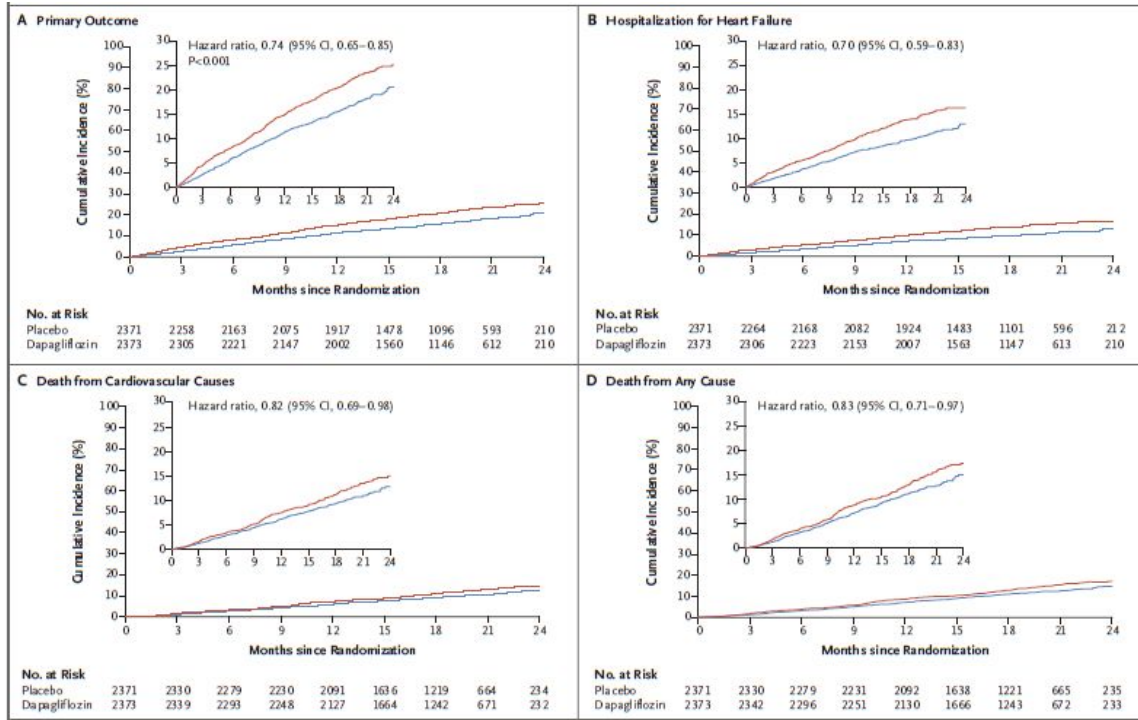
ARNI in HFrEF



SGLT2i in HFrEF

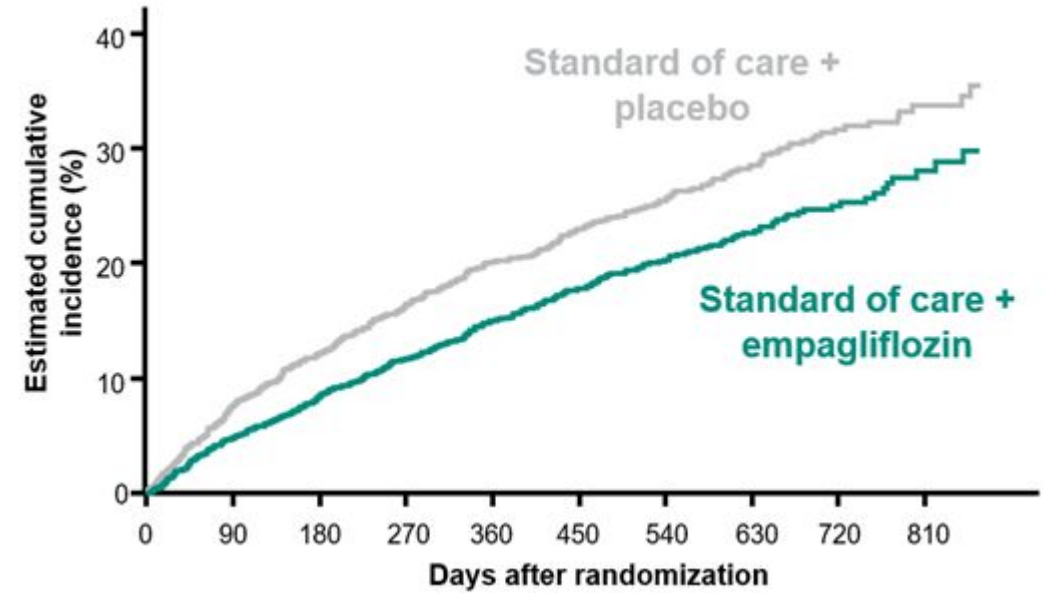


DAPA HF



McMurray et al. NEJM 2019

EMPEROR REDUCED



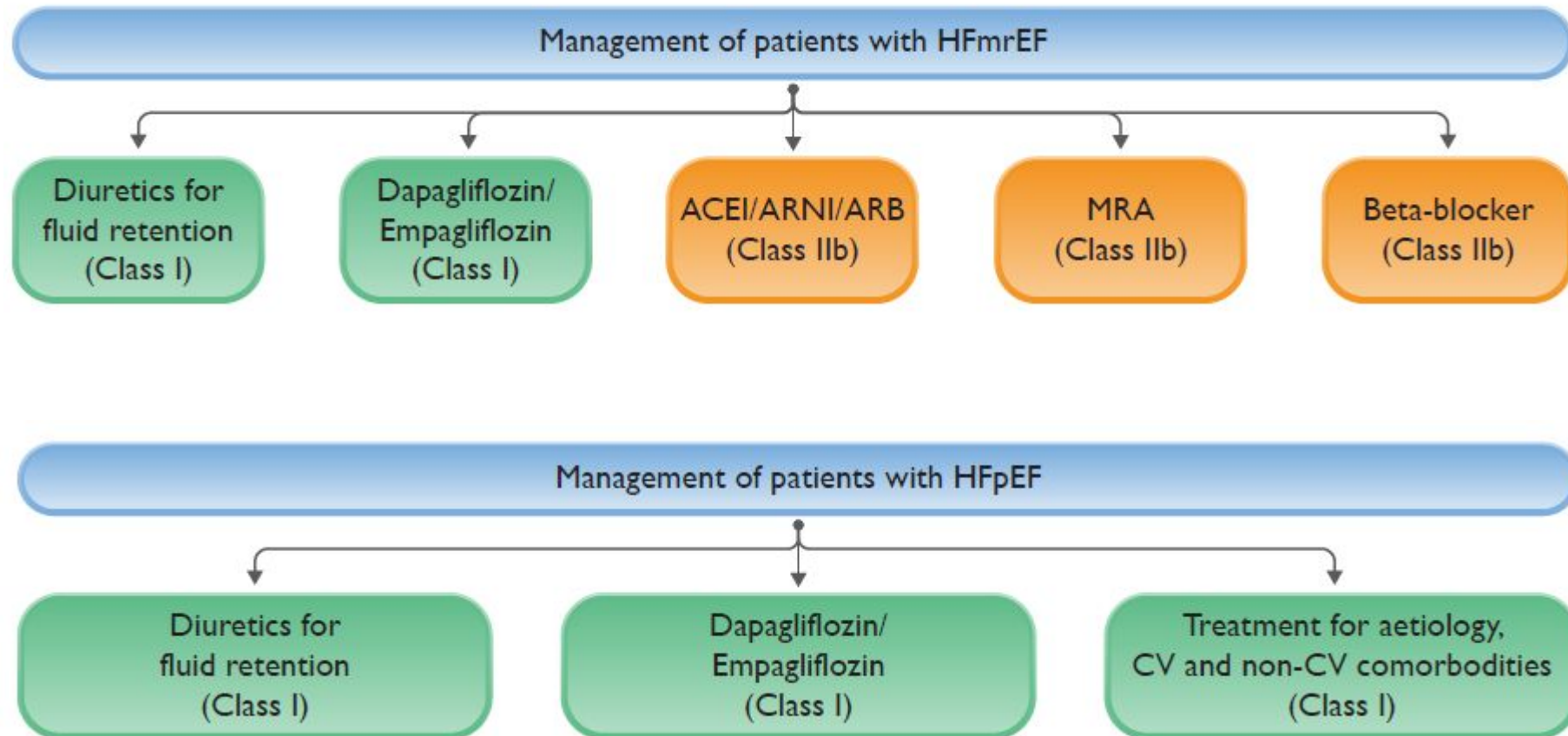
RRR 25%
ARR 5.3%
NNT 19

HR: 0.75
(95% CI: 0.65, 0.86)
p<0.001

Packer et al. NEJM 2020

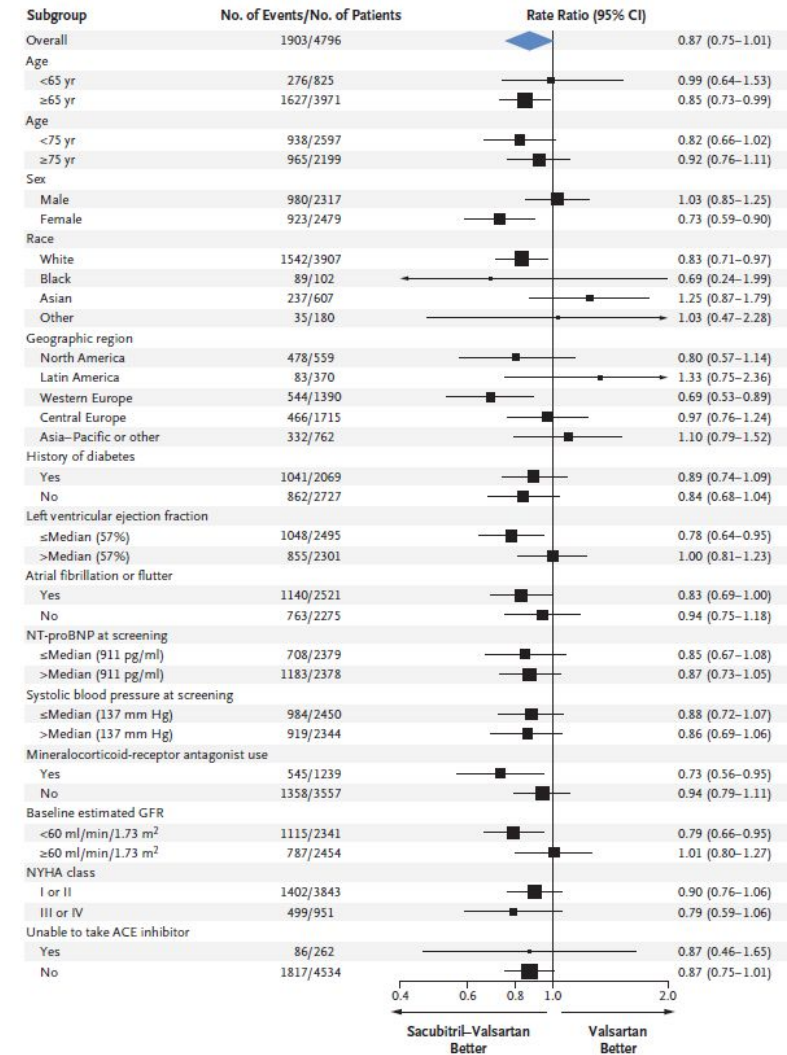
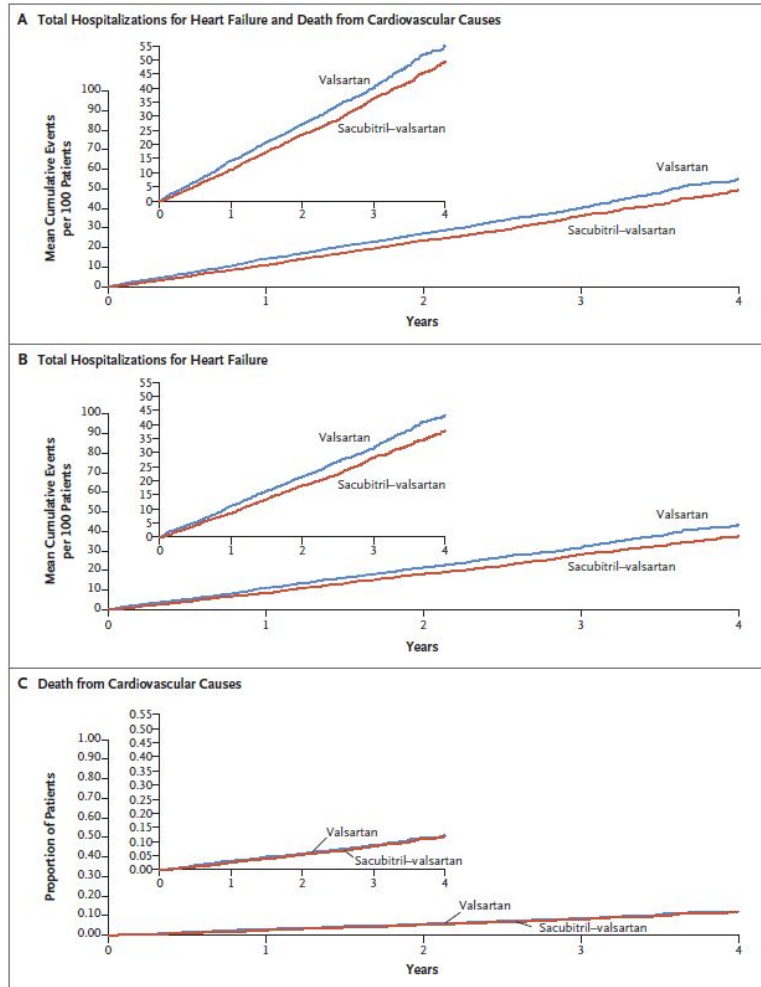


Zdravljenje HFvsehostalihEF





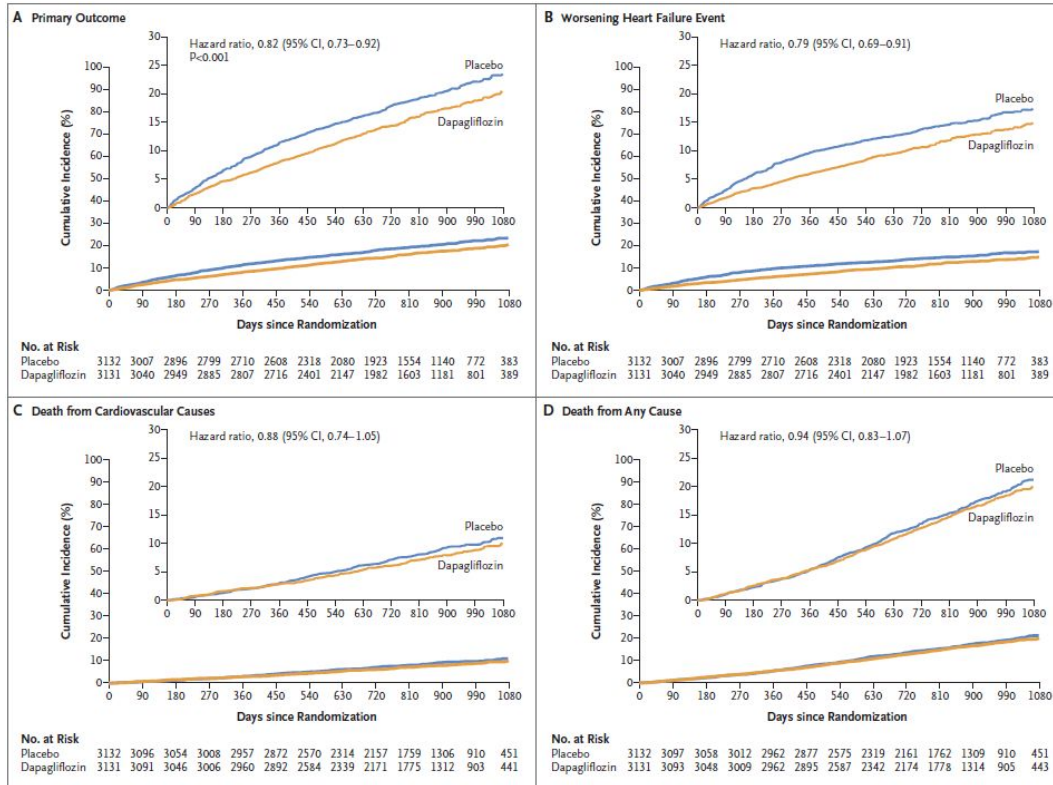
HFpEF in ARNI





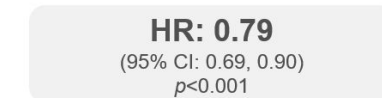
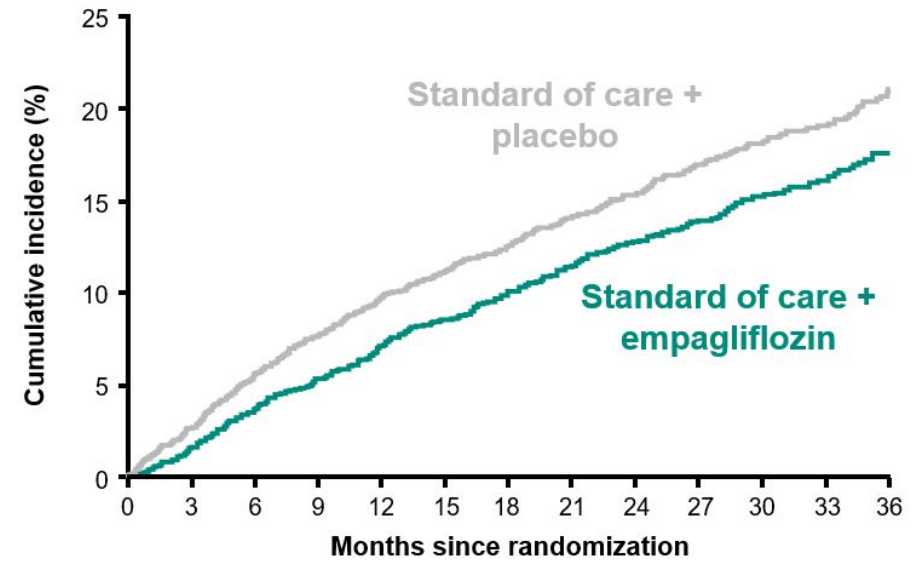
SGLT2i in HFpEF

DELIVER



Solomon et al. NEJM 2022

EMPEROR PRESERVED



Anker SD et al. N Engl J Med. 2021;





HFpEF – pomembna je natančna Dg!

Aetiology	Diagnostic tools	Treatment considerations distinct from primary HFpEF
HFpEF	See section on diagnosis	NA
Cardiac amyloidosis	Monoclonal proteins, radionuclide scintigraphy, biopsy	Tafamidis (for transthyretin amyloidosis) or chemotherapy (for light-chain amyloidosis); avoid neurohormonal antagonists
Hypertrophic cardiomyopathy	Echocardiography, cardiac MRI	β -Blockers, calcium-channel blockers or septal-reduction therapies (for obstructive cardiomyopathy); avoid vasodilators
Cardiac sarcoidosis	Cardiac MRI, FDG-PET, biopsy	Immunosuppressive agents
Constrictive pericarditis	Echocardiography, cardiac MRI or CT imaging, invasive haemodynamic measurements	Pericardiectomy
Valvular heart disease ^a	Echocardiography, invasive haemodynamic measurements with ventriculography	Surgical or percutaneous valve interventions
Coronary artery disease ^a	Invasive coronary angiography, stress imaging ^b or CT imaging	Revascularization, aspirin, statins, β -blockers and nitrates
High-output heart failure	Evaluate for arteriovenous shunts and liver disease	Treatments directed at the cause of high cardiac output (such as fistula ligation for shunts, liver transplantation for cirrhosis)
Myocarditis	Cardiac MRI, endomyocardial biopsy	Immunosuppressive agents for some types (such as giant cell myocarditis or eosinophilic myocarditis)
Toxins ^a	Assessment of clinical history, blood testing, endomyocardial biopsy	Removal of offending toxin (such as alcohol, cocaine, chemotherapy or radiation therapy, or heavy metals)

HFpEF bolniki
s specifično etiologijo



Primer #1

- 55–letni bolnik, znan hipertoničnik, z novonastalo dispnejo
- Terapije: Amlessa 8/5 mg
- IPP:
 - NT-proBNP 2857 pg/mL, kreatinin 135 μ mol/L, K 4,8 mmol/L
 - EKG: sinusni ritem, 89/min
 - RR 134/95 mmHg
 - Orientacijski UZ srca: povečan LV, LVEF 35 %, brez pomembnih patologij na zaklopkah.
 - Svetovano uvajanje terapije SP pri osebnem zdravniku in napotitev h kardiologu za nadaljevanje diagnostike



Kako pristopiti k uvajanju terapije SP?



- Δ Amlessa za ARNI (36h „washout interval“), začetni odmerek lahko 49/51 mg/12h
- Blokator beta
- MRA
- SGLT2i (uvajanje z nekajdnevnim zamikom glede na ARNI)
- Diuretik zanke pp (previdno)

Lahko uvedemo
sočasno



Primer #2

- 35–letni bolnik, brez komorbidnosti, z novonastalo dispnejo, blagim otekanjem in upadom telesne zmogljivosti; težave sovpadajo s prebolelo virozo
- Redne terapije ne jemlje
- Izvidi:
 - NT-proBNP 3014 pg/mL, kreatinin 88 μ mol/L, K 4,8 mmol/L
 - EKG: sinusni ritem, 95/min; RTG pc: povečana srčna senca
 - RR 102/65 mmHg
 - UZ srca: naročen
 - Pregled pri kardiologu: naročen



Kako pristopiti k uvajanju terapije SP?



- Blokator beta (nizek začetni odmerek)
 - MRA
 - SGLT2i
 - ARNI (24/26 mg/12h; po cca 7-10 dneh glede na uvedbo ostale terapije)
 - Diuretik zanke pp (previdno)
- } Lahko uvedemo sočasno



Primer #3

- 72–letni bolnik, AH, HLP, stanje po NSTEMI (PCI LAD), progresivna dispneja
- Terapija: Lacipil 4 + 2 mg, Tonocardin 4 mg, Helex, Aspirin
- IPP:
 - NT-proBNP 4087 pg/mL, kreatinin 145 μ mol/L, K 5,1 mmol/L
 - EKG: Afib, 108/min;
 - RR 145/95 mmHg
 - UZ srca: koncentrična hipertrofija, LVEF 65 %, diastolična disfunkcija II. st., blaga PH
 - Pregled pri kardiologu: naročen



Kako pristopiti k uvajanju terapije SP?



- SGLT2i
 - Blokator beta (nizek začetni odmerek)
 - MRA
 - ARNI?
 - Optimizacija antihipertenzivne terapije glede na RR
- } Lahko uvedemo sočasno



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