ECHO IDAHO

Managing Heart Failure in Primary Care

Management of Heart Failure with Preserved Ejection Fraction

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Alexander Sandhu, MD, MS reported financial relationships with Astra Zeneca (Grant Or Contract) ; Bayer (Grant Or Contract) ; Novartis (Grant Or Contract) ; Novo Nordisk (Grant Or Contract) . These relationships were mitigated through a peer review.

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Disclosures

- Alexander Sandhu has received research funding from Astra Zeneca, Bayer, Novartis, and Novo Nordisk. All relevant financial relationships have been mitigated.

Learning Objectives

- Understand the classification of heart failure based on ejection fraction
- Identify pharmacologic treatments for heart failure with preserved ejection fraction
- Identify non-pharmacologic strategies for improving quality of life with heart failure with preserved ejection fraction
- Identifying red flags among patients with heart failure with preserved ejection fraction

Heart Failure based on Ejection Fraction

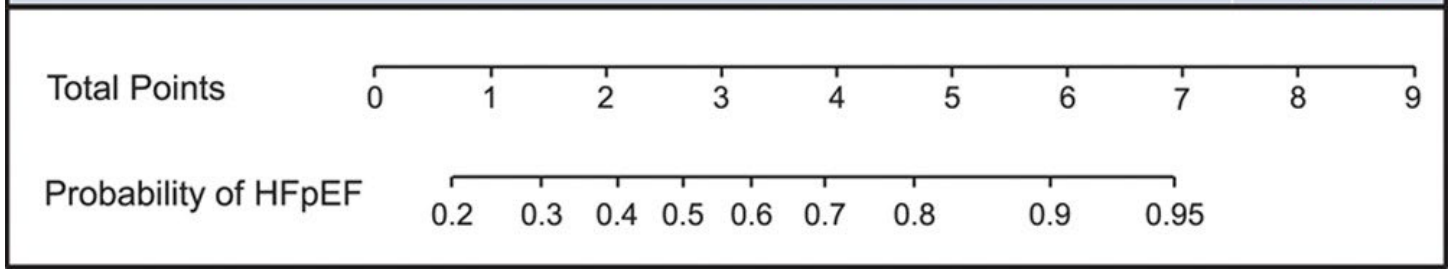
Table 4. Classification of HF by LVEF (Table view)

Type of HF According to LVEF	Criteria
HFrEF (HF with reduced EF)	LVEF ≤40%
HFimpEF (HF with improved EF)	Previous LVEF ≤40% and a follow-up measurement of LVEF >40%
HFmrEF (HF with mildly reduced EF)	LVEF 41%–49% Evidence of spontaneous or provokable increased LV filling pressures (eg, elevated natriuretic peptide, noninvasive and invasive hemodynamic measurement)
HFpEF (HF with preserved EF)	LVEF ≥50% Evidence of spontaneous or provokable increased LV filling pressures (eg, elevated natriuretic peptide, noninvasive and invasive hemodynamic measurement)

Heidenreich PA, et al. Circulation. 2022 May 3;145(18):e895-e1032.

HFpEF Diagnosis

	Clinical Variable	Values	Points
H_2	**H**eavy	Body mass index > 30 kg/m^2	2
	Hypertensive	2 or more antihypertensive medicines	1
F	Atrial **F**ibrillation	Paroxysmal or Persistent	3
P	**P**ulmonary Hypertension	Doppler Echocardiographic estimated Pulmonary Artery Systolic Pressure > 35 mmHg	1
E	**E**lder	Age > 60 years	1
F	**F**illing Pressure	Doppler Echocardiographic E/e' > 9	1
H_2FPEF score			Sum (0-9)



Reddy YNV et al. Circulation. 2018 Aug 28;138(9):861-870.

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HFpEF Pharmacologic Therapies

- 2020: 0 clinical trials of pharmacologic therapies in HFpEF that reduced their primary endpoint

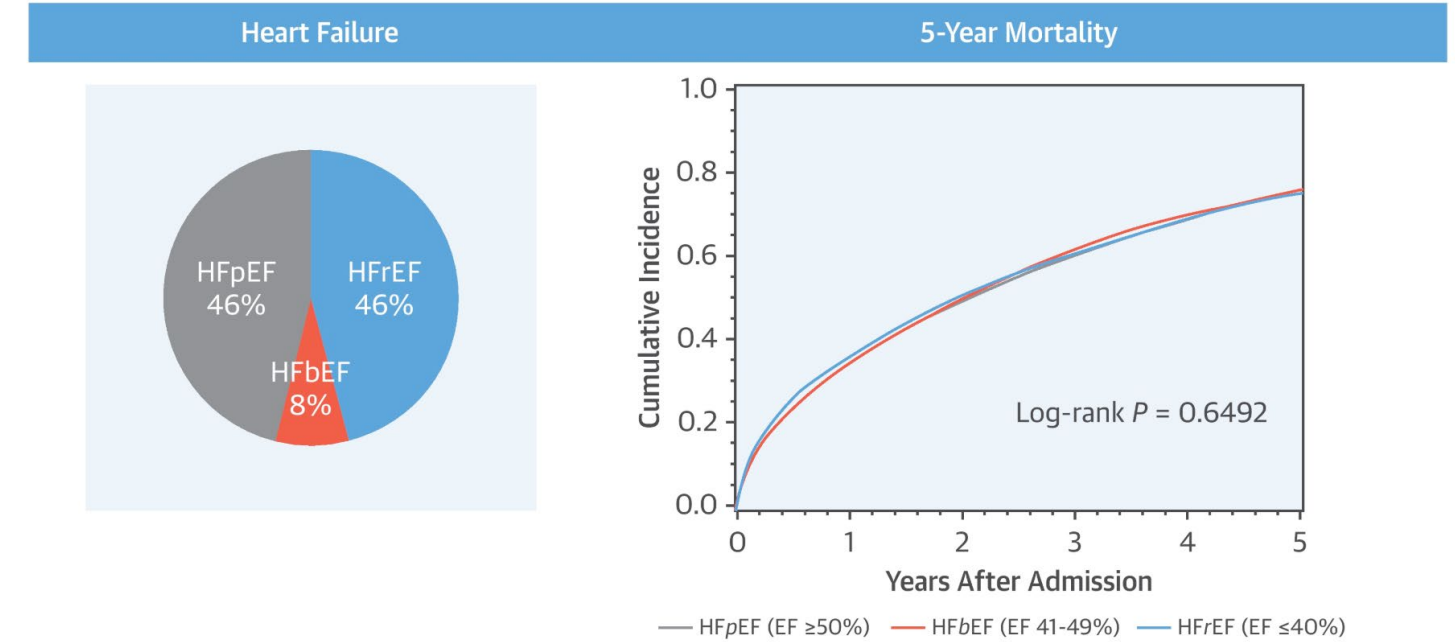
- 2026: SGLT2i, non-steroidal mineralocorticoid receptor antagonist (nsMRA) or finerenone, GLP1RA

General Principles of HFpEF Treatment

- Need to treat congestion (high pressures in heart that drive worsening symptoms)
  - Better to treat with disease-modifying treatments (SGLT2i, MRA) than with loop diuretics but often need both
- Need to prevent disease progression: BP control, obesity management, diabetes control, coronary disease prevention, *disease mimics*
- Optimizing comorbidities often critical for improving quality of life – anemia, obesity, frailty
- How does treatment benefit compare with HFpEF vs. HFrEF

HFpEF vs. HFrEF Outcomes

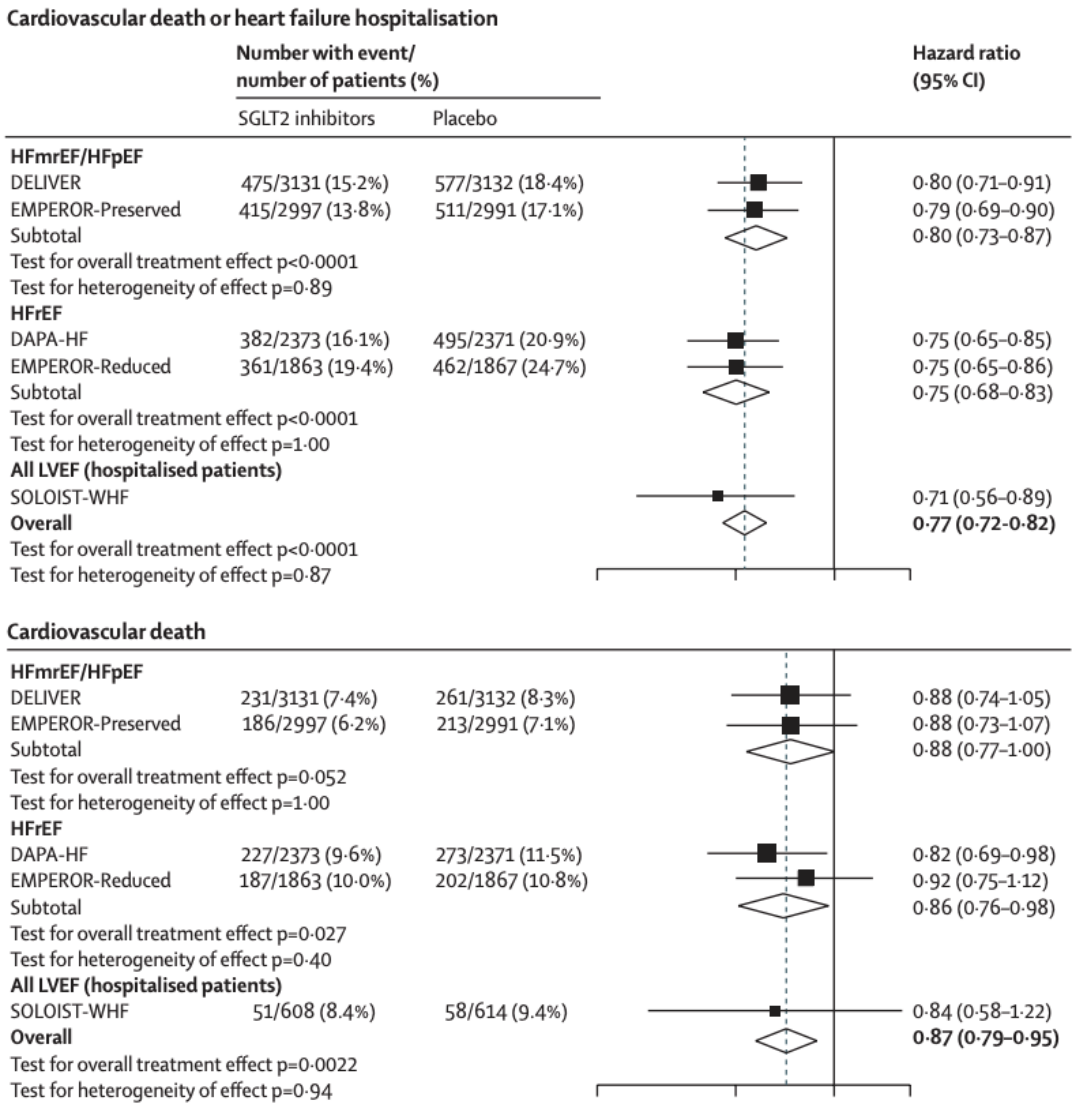
- Among real-world hospitalized cohort, similar mortality and readmission
- HFrEF: Cardiovascular death and hospitalization proportion higher – larger benefit from treating with cardiac meds
- HFpEF: harder to get the diagnosis right

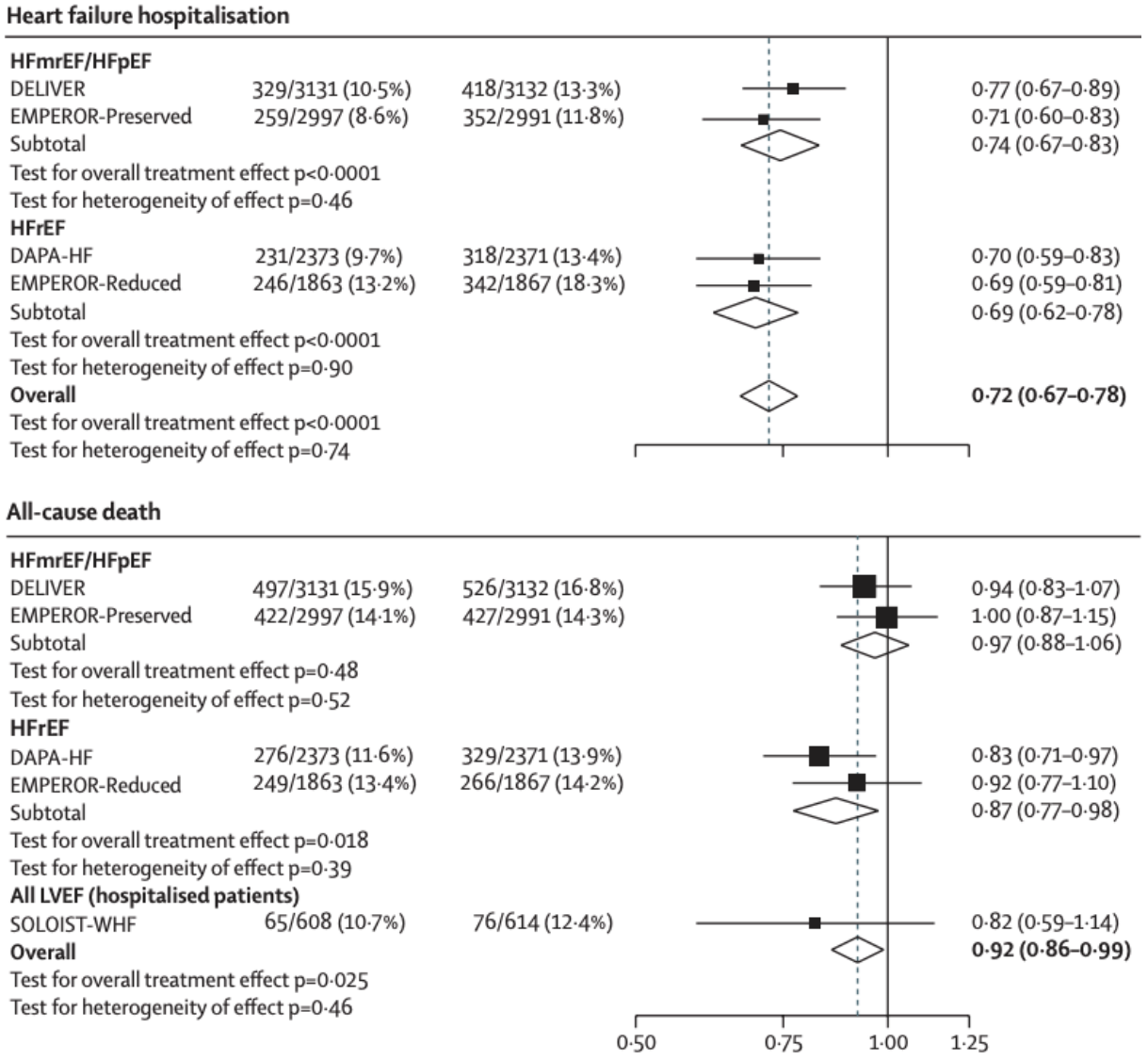


Outcomes – 5-Year Event Rates (%)					
	Mortality	Readmission	CV Readmission	HF Readmission	Mortality/Readmission
HFrEF	75.3	82.2	63.9	48.5	96.4
HFbEF	75.7	85.7	63.3	45.2	97.2
HFpEF	75.7	84.0	58.9	40.5	97.3

Shah, K.S. et al. J Am Coll Cardiol. 2017;70(20):2476-86.

SGLT2i





Vadgunathan et al. Lancet. 2022 09 03;400(10354):757-767.

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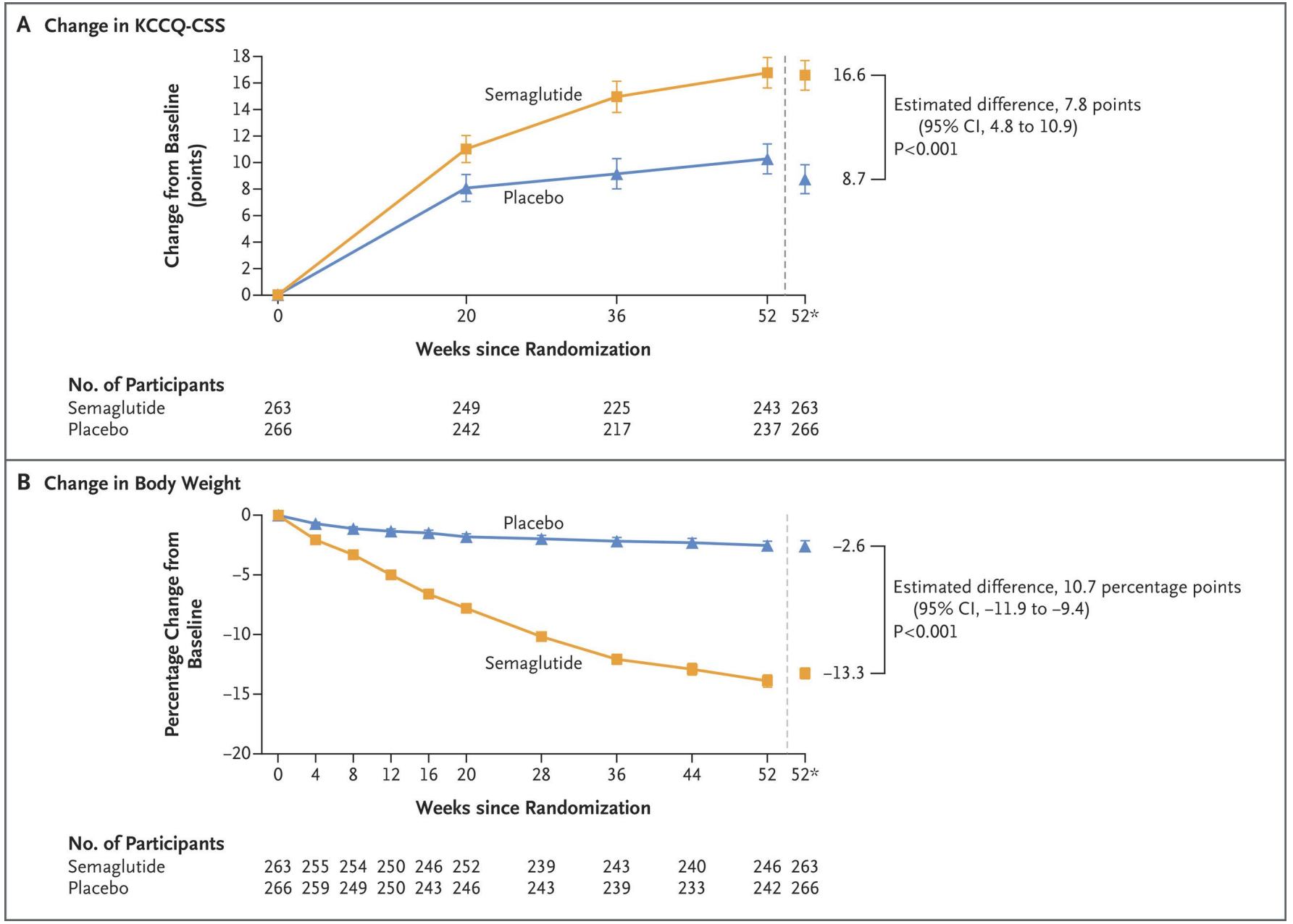
GLP1RA



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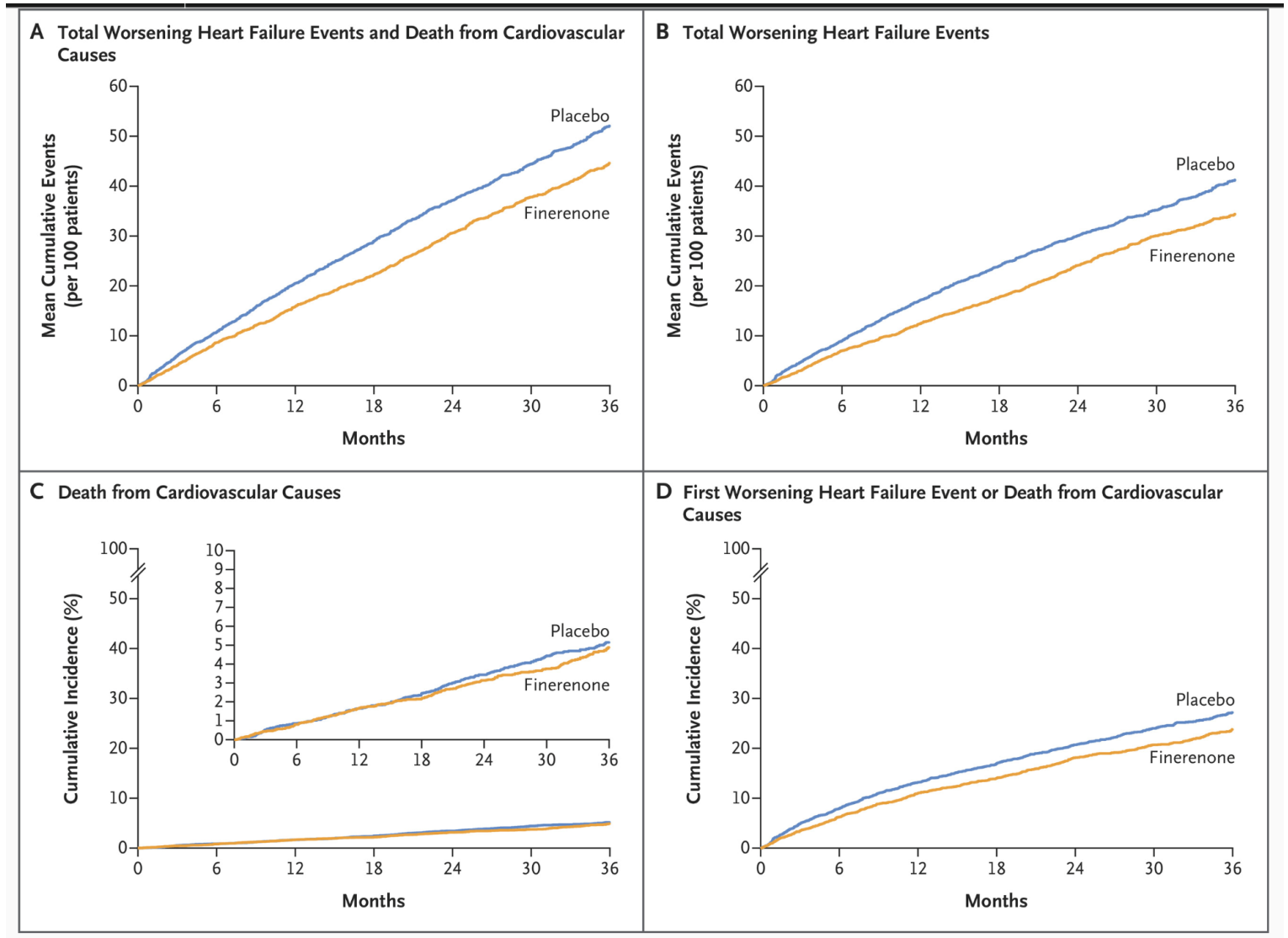
Non-steroidal mineralocorticoid receptor antagonist: Finerenone

- MRA like spironolactone or eplerenone
  - Higher potency antagonism for mineralocorticoid receptor
  - More selective for mineralocorticoid receptor
  - Less likely to cause hyperkalemia theoretically
  - Less likely to cause sexual side effects (gynecomastia, libido effects)
- Finerenone shown to prevent CKD progression and CV events among patients with diabetes and CKD with microalbuminuria (FIDELITY-DKD and FIGARO-DKD)[1]

[1]*Agarwal R, et al. Eur Heart J. 2022 Feb 10;43(6):474-484*

Finerenone



Solomon et al. N Engl J Med 2024;391:1475-1485.

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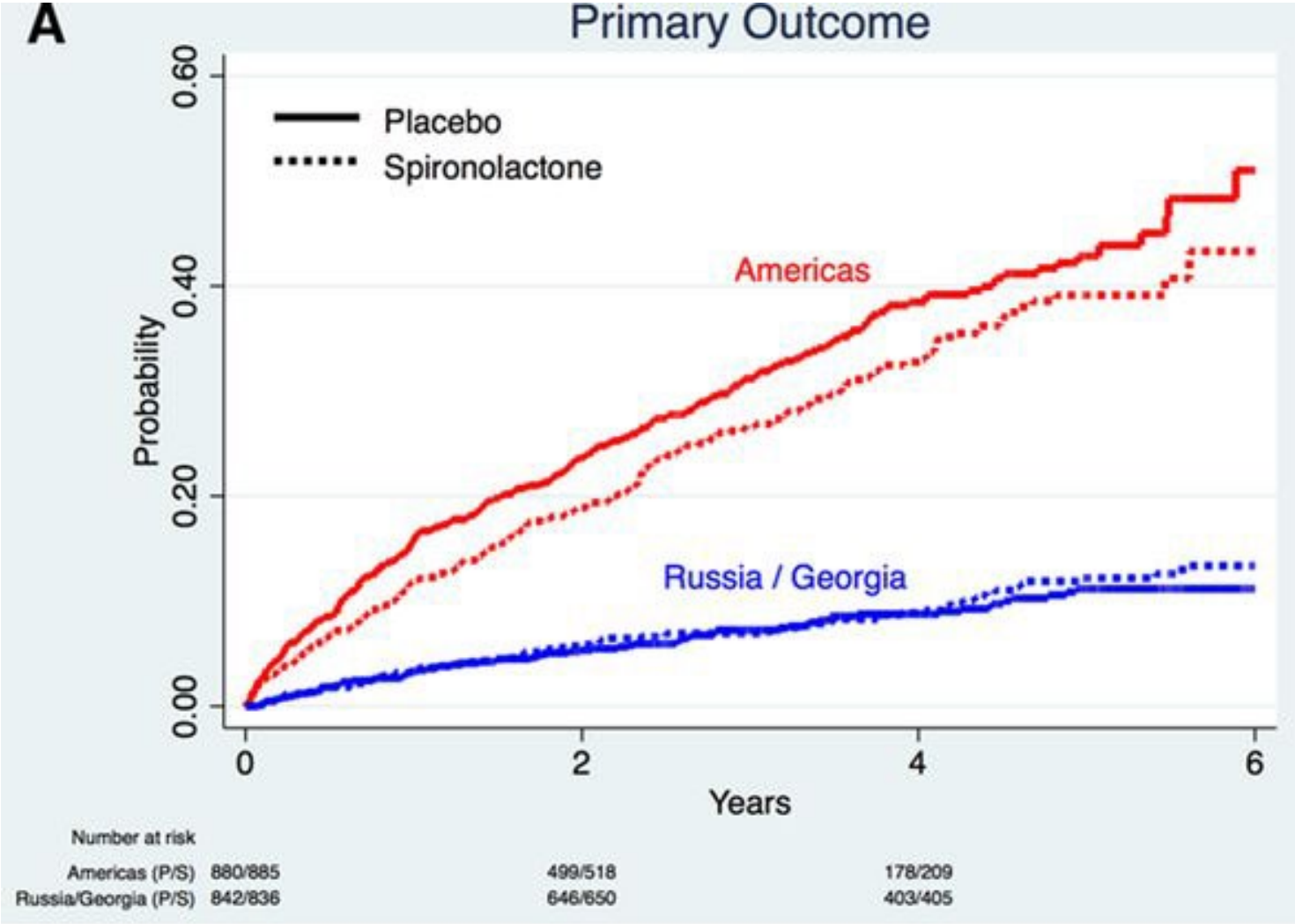
Spironolactone



Pfeffer et al. Circulation. 2015 Jan 6;131(1):34-42.

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My HFpEF Treatment Approach: An Evolving Science

- Make sure they have HFpEF – symptoms with risk factors or prior evidence of clear HFpEF (hospitalization for volume overload)
- SGLT2i as first-line treatment if no contraindication
- Low threshold for MRA/nsMRA: requires diuretics, requires potassium (K<4), or persistent symptoms (check potassium after starting)
- GLP1RA if BMI>30 and symptoms
- No role for routine beta-blockade for HFpEF → often feel better when beta-blocker stopped
  - Exceptions: using for atrial fibrillation rate control, angina, or HFimpEF

My HFpEF Treatment Approach: An Evolving Science

- **Minimum** diuretic dose needed to control symptoms signs of congestion (orthopnea, edema, elevated JVP) with SGLT2i and MRA
- Diuretic dose changes over time – don't be afraid to try higher or lower and just monitor the effect
  - Symptoms (dyspnea, dizziness), edema, labs
- BP Control (at least <130/80): RASI are great here and may also have benefit
- Encourage exercise

HFpEF Mimics: Needs Cardiology Evaluation

- Cardiac amyloidosis: moderate-severe LVH without severe HTN or renal failure; prior carpal tunnel/lumbar spinal stenosis; neuropathy
- Cardiac sarcoidosis: Extracardiac sarcoidosis; complete heart block; ventricular arrhythmias
- Hemochromatosis: check iron saturation routinely
- Hypertrophic cardiomyopathy/familial infiltrative: young person without other risk factors; family history of sudden death
- Pericardial disease: prior cardiac surgery or radiation; significant edema>dyspnea
- (ESRD: often more about the kidney failure than the heart)

HFmrEF: EF 41-49%: Between HFrEF and HFpEF

- Treat it closer to HFrEF with all the same drugs; greater cardiovascular risk than EF≥50%
- Lower cardiovascular risk than EF≤40 → less treatment benefit
  - Still Push the 4 established therapies but lower threshold to stop if low BP, side effects, increased creatinine, or high cost
- Watch for EF worsening

Heart failure with improved EF (HFimpEF)

- Risk is lower because their EF has improved to >40%
- Patients still have HF (“in remission”)
  - Can still have active HF with persistent symptoms
  - With significant risk of EF worsening especially if therapies stopped
- Not uptitrate therapy after EF improved
  - Except starting SGLT2i
  - Except for BP control (at least < 130/80)
- Try to have patients stay on existing therapy (including beta-blocker) to reduce risk of worsening
- If patients come off therapy, would routinely check for EF and symptom worsening

Key Points

- A lot we can do to help patients with HFpEF feel better and stay out of hospital
- Prioritize SGLT2i and MRA/nsMRA over diuretics
- Use diuretics as needed – dose will change over time
- GLP1RA can have major symptom benefits for HFpEF with obesity
- Look for mimics that need cardiology evaluation
- If EF improved, try to stay on therapy that got them there

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