



**7th Advances
in Heart
Failure 2024**

10 e 11 de Outubro

FACULDADE DE MEDICINA DA UNIVERSIDADE DO PORTO

Dos Fatores de Risco à

João R. Agostinho

ICFEP

Where did we get?

4th Advances in Heart Failure 2021

Comorbidities in HFpEF: Focus on obesity and diabetes

João R. Agostinho
2021

J.R. Agostinho

TAKE HOME MESSAGES

- Diabetes and obesity are amongst the most prevalent and dominant comorbidities in patients with HFpEF.
- Obesity and diabetes may not be simple comorbidities in HFpEF as they may be implicated in HFpEF pathophysiology.
- As for now we are still trying to understand how to address obesity in HFpEF. We do know that it is important to preserve lean mass.
- Diabetes severely impacts HFpEF prognosis and has to be promptly addressed.
- SGLT2 inhibitors efficacy in HFpEF patients events reduction may be related to fact that they counteract the effects of some metabolic and hemodynamic active molecules that are either overexpressed in diabetes and obesity.

Where did we get?

4th Ad

7th Advances in Heart Failure

Insuficiência Cardíaca em Portugal: Como chegamos aqui?

Moderadores: Ana Abreu, Filipe Macedo

- **Obesidade** Duarte Pignatelli

- **Diabetes** Gonçalo Proença

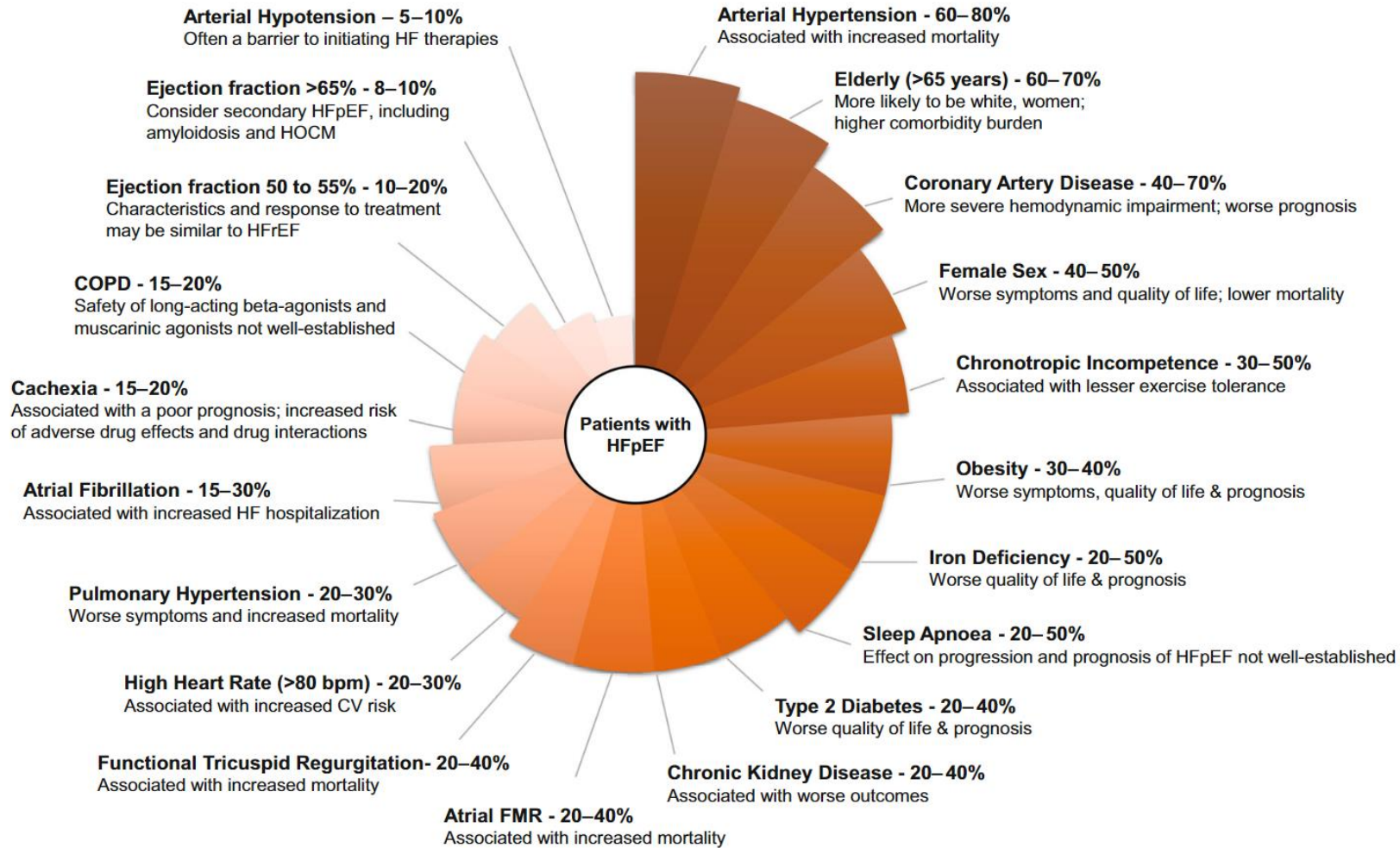
- **Hipertensão Arterial** Rosa Pinho

- **Dos Fatores de Risco à ICFEP** João Agostinho

Discussão: Mónica Pedro, Paulo Santos

- SGLT2 inhibitors efficacy in HFpEF patients events reduction may be related to fact that they counteract the effects of some metabolic and hemodynamic active molecules that are either overexpressed in diabetes and obesity.

HFpEF risk factors



Where are we now?



ICFE reduzida	n = 23	0,35 (0,23 – 0,55)%
ICFE ligeiramente reduzida	n = 52	0,97 (0,49 – 1,91)%
ICFE preservada	n = 1061	15,22 (13,73 – 16,84)%

INSUFICIÊNCIA CARDÍACA	n = 1136	16,54 (14,88 – 18,35)%
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Why did we get here?

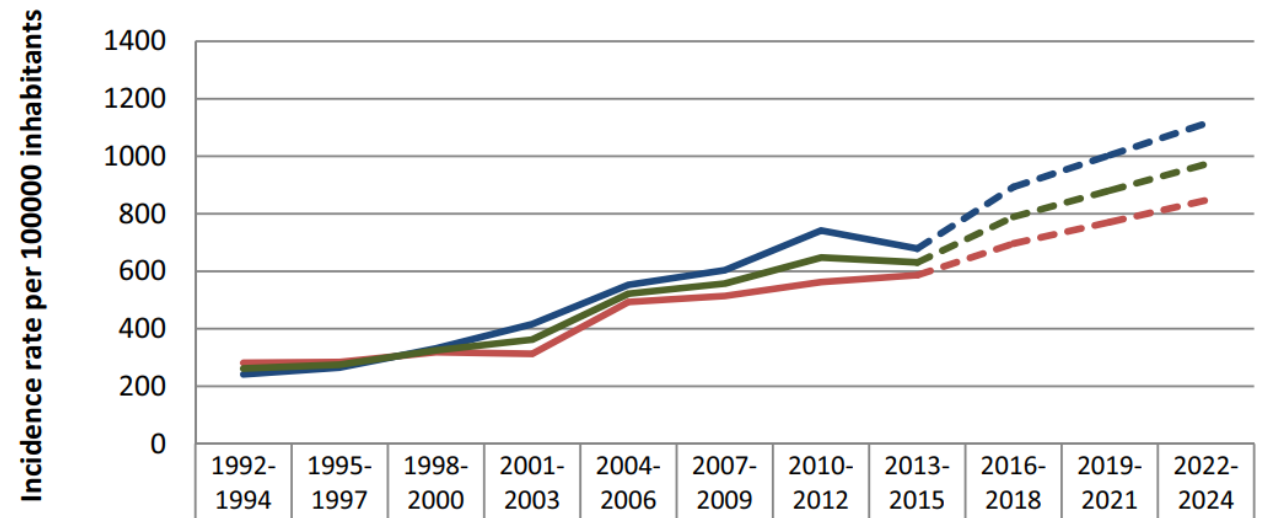
Hypertensio

**n
36%**

**Diabetes: 9.9%
Prediabetes: 16.7%**

Characteristics	Total (n=4910), % (95% CI)
<i>Age group</i>	
25-44 years	12.1 (10.1-14.3)
45-54 years	35.8 (31.3-40.6)
55-64 years	58.4 (51.4-65.0)
65-74 years	71.3 (65.7-76.4)

Diabetes incidence rate between 1992-2015 and projections until 2024

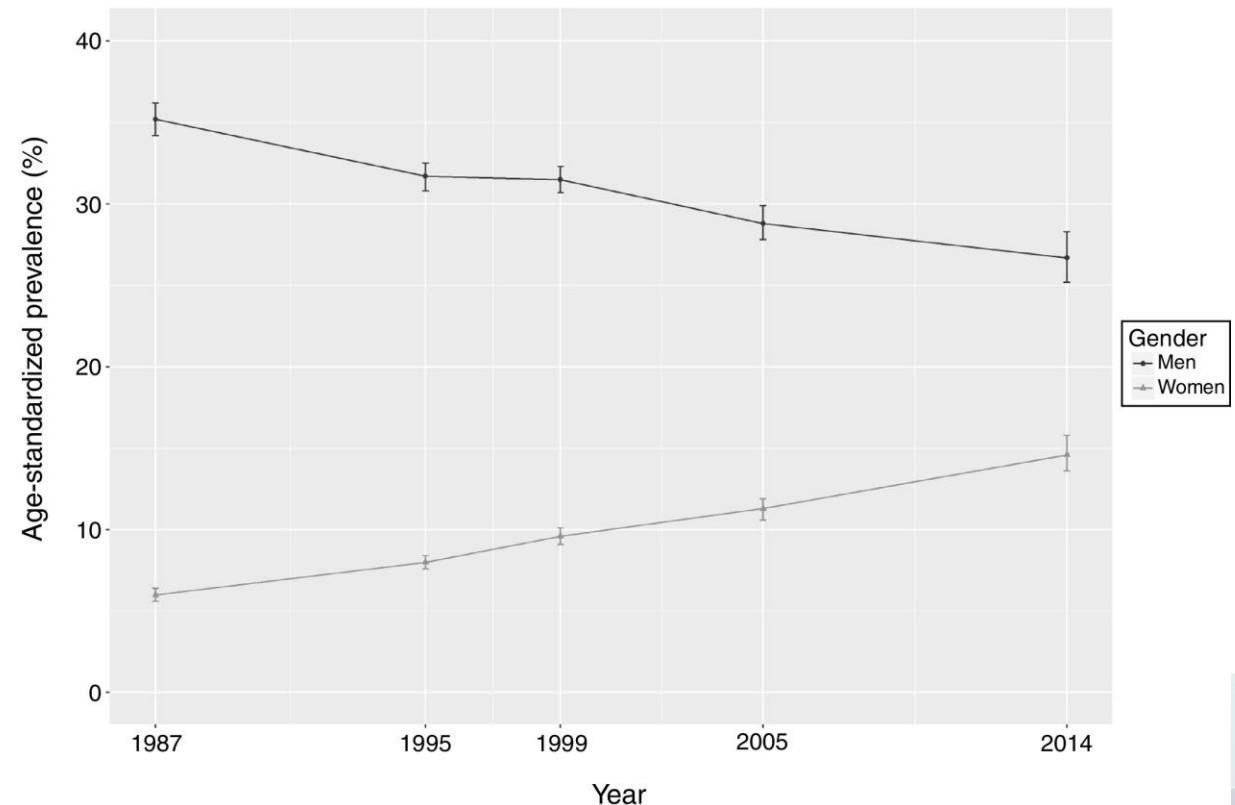


Why did we get here?

Chronic Kidney Disease

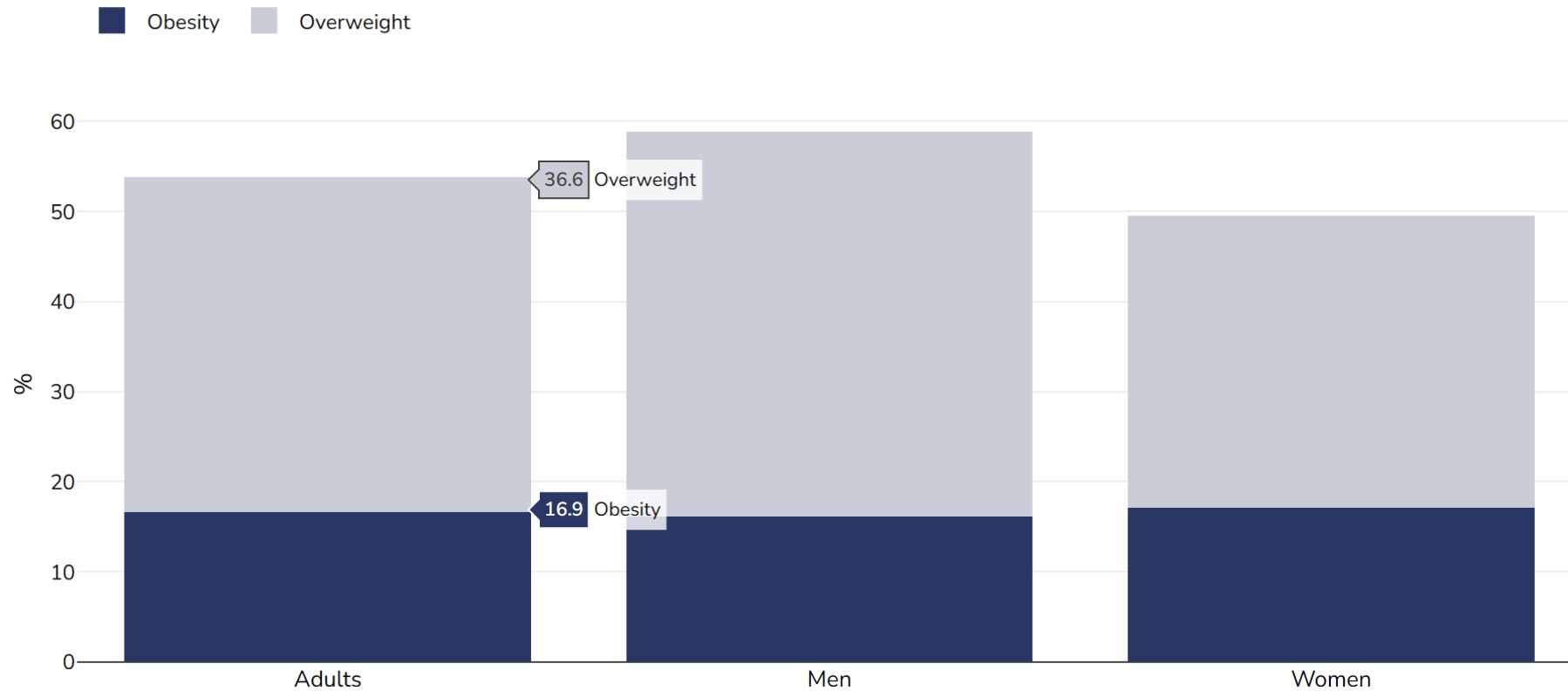
		ACR		
		A1	A2	A3
eGFR	G1	NA	0.00%	0.40% (0.10–0.70%)
	G2	NA	7.80% (2.40–13.20%)	1.90% (0.60–3.30%)
	G3a	6.20% (1.9–10.5%)	1.70% (0.50–2.90%)	0.07% (0.02–0.10%)
	G3b	1.36% (0.4–2.3%)	0.70% (0.20–1.20%)	0.05% (0.02–0.09%)
	G4	0.24% (0.08–0.4%)	0.10% (0.03–0.2%)	0.12% (0.04–0.21%)
	G5	0.00%	0.04% (0.01–0.08%)	0.04% (0.01–0.70%)
Total		14.00%	5.36%	1.36%

Smoking 20.7%



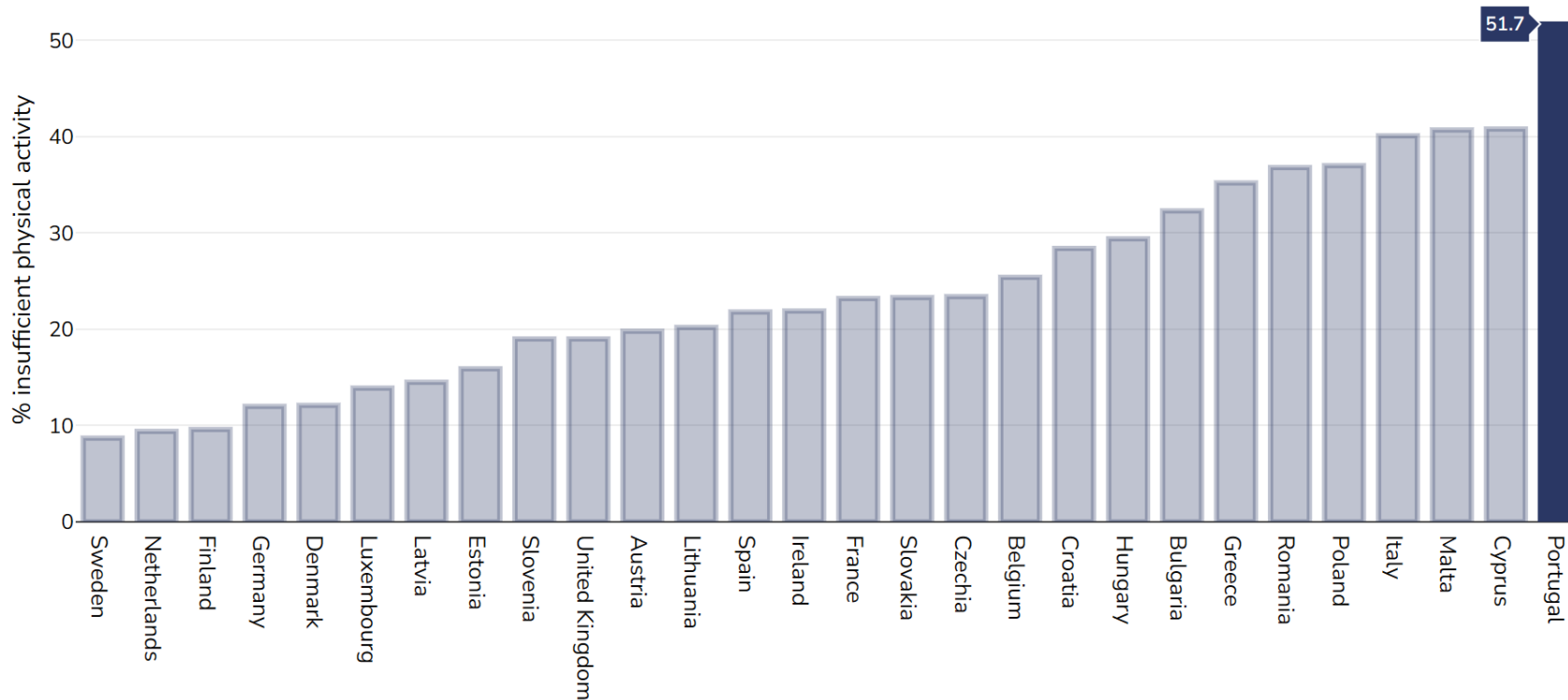
Why did we get here?

Obesity



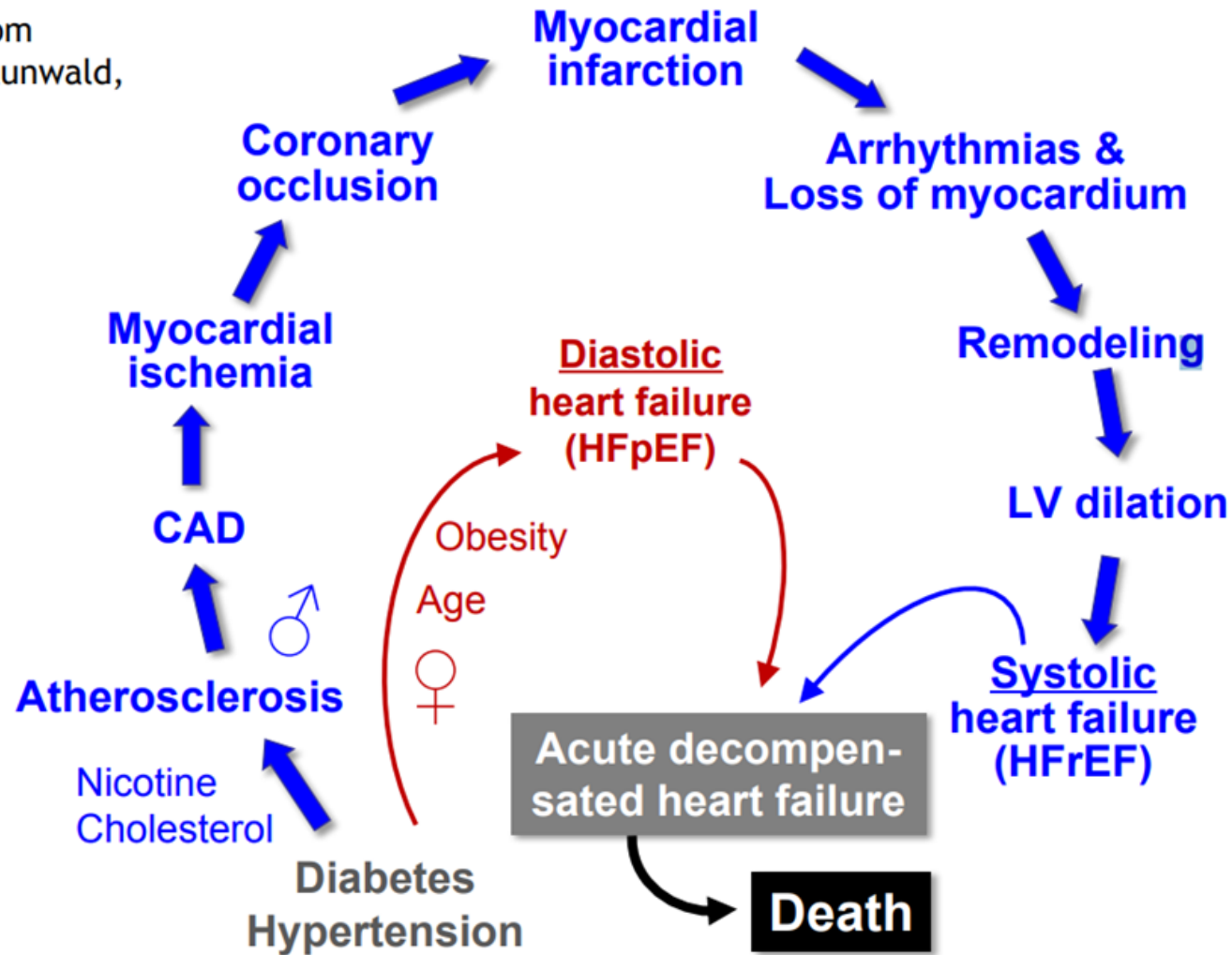
Why did we get here?

Insufficient



Classical cause-consequence theories

Modified from
Dzaru & Braunwald,
1991



Nowadays, can we differentiate risk factors, mechanisms, phenotypes and complications?

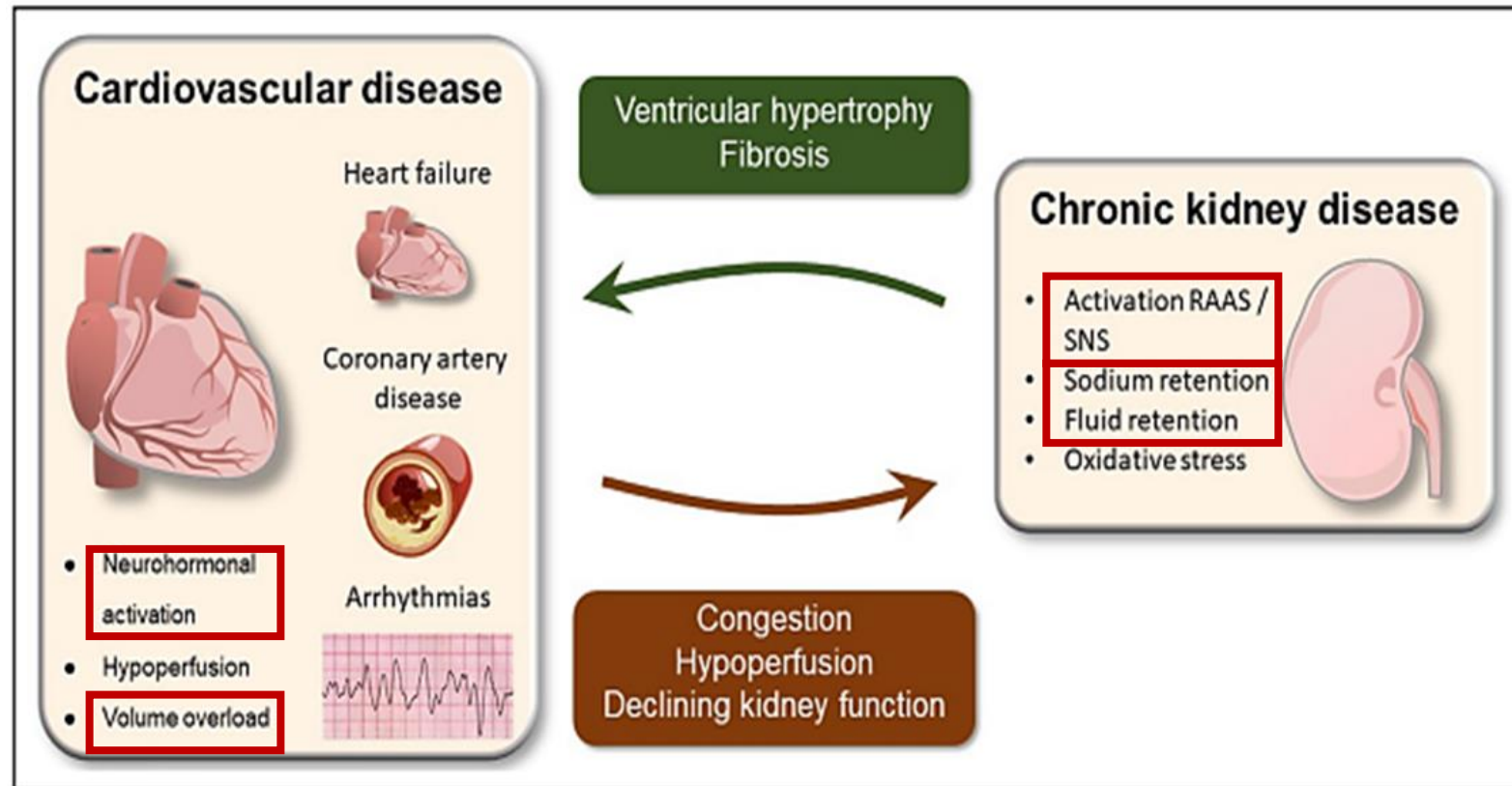
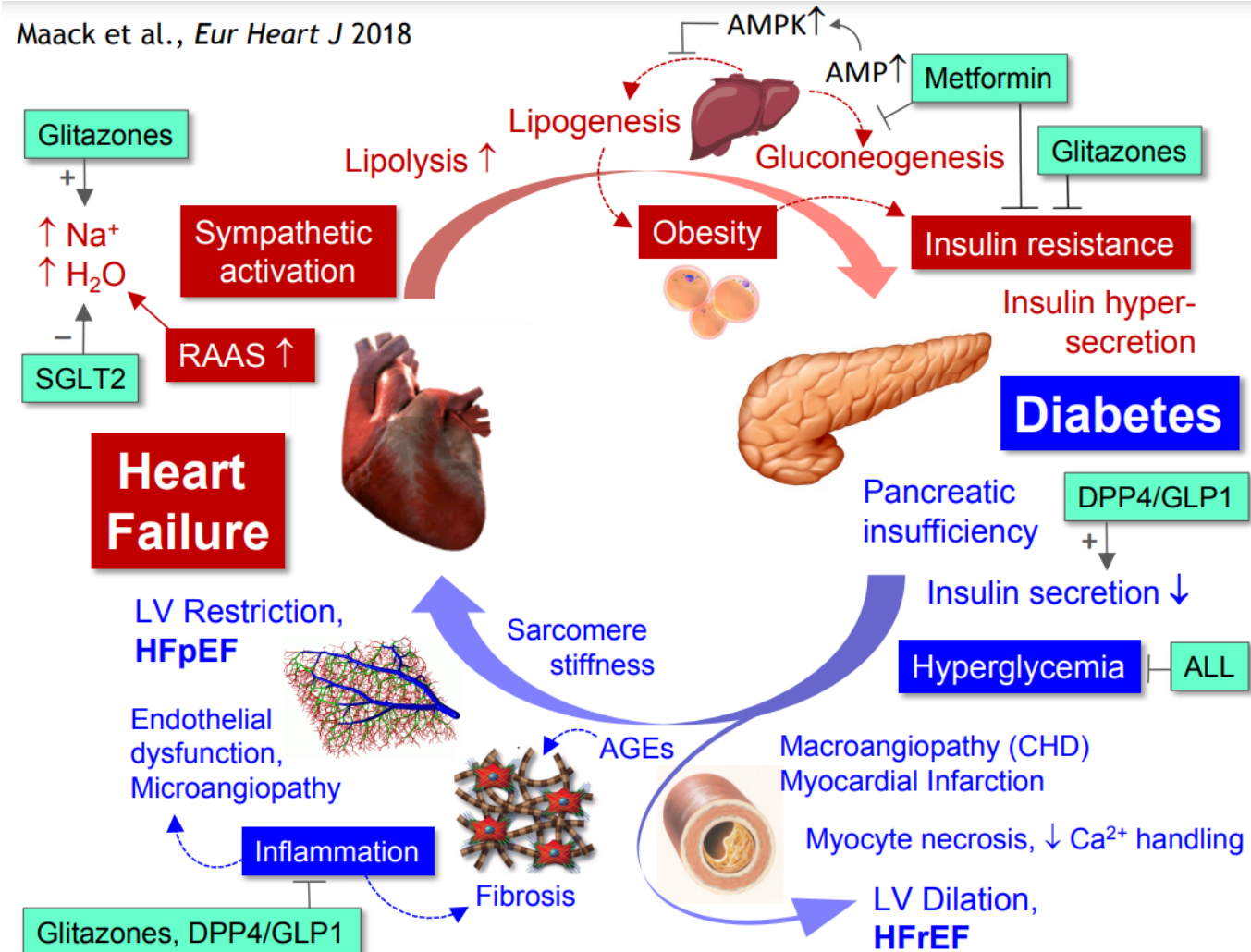
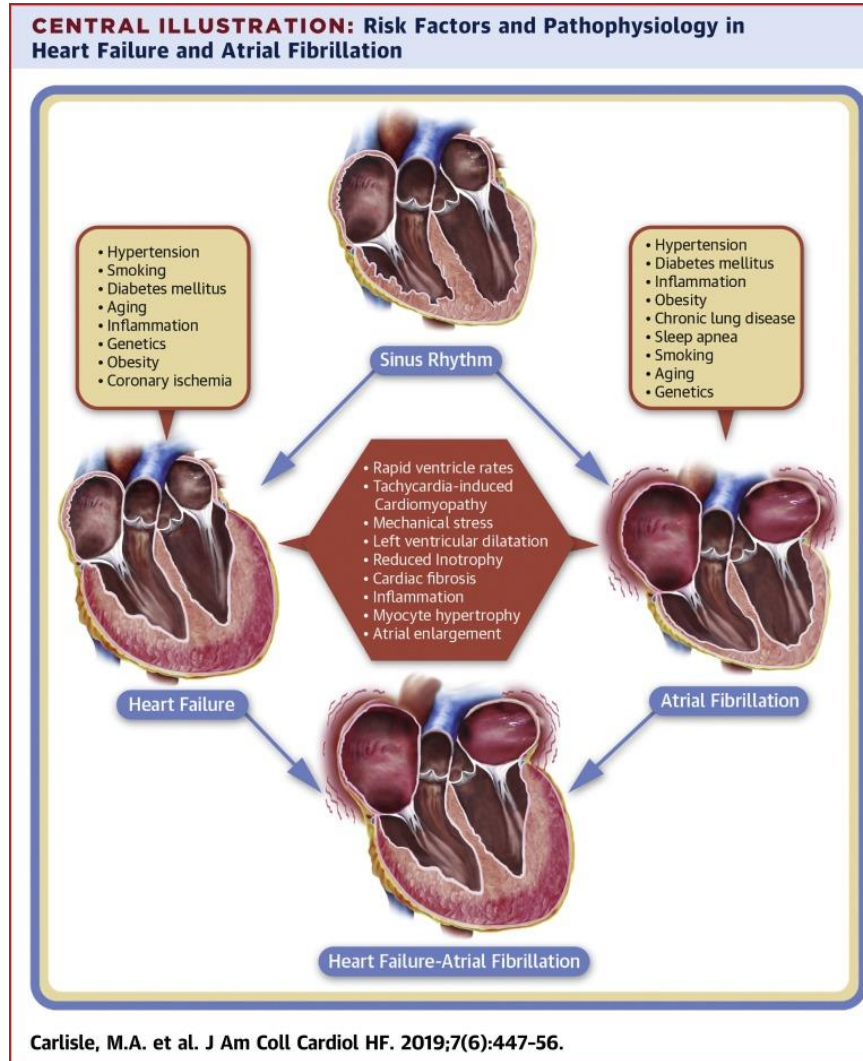


Figure 1. Simplified scheme depicting the interaction of cardiovascular disease and chronic kidney disease. RAAS indicates renin-angiotensin-aldosterone; and SNS, sympathetic nerve system.

Nowadays, can we differentiate risk factors, mechanisms, phenotypes and complications?

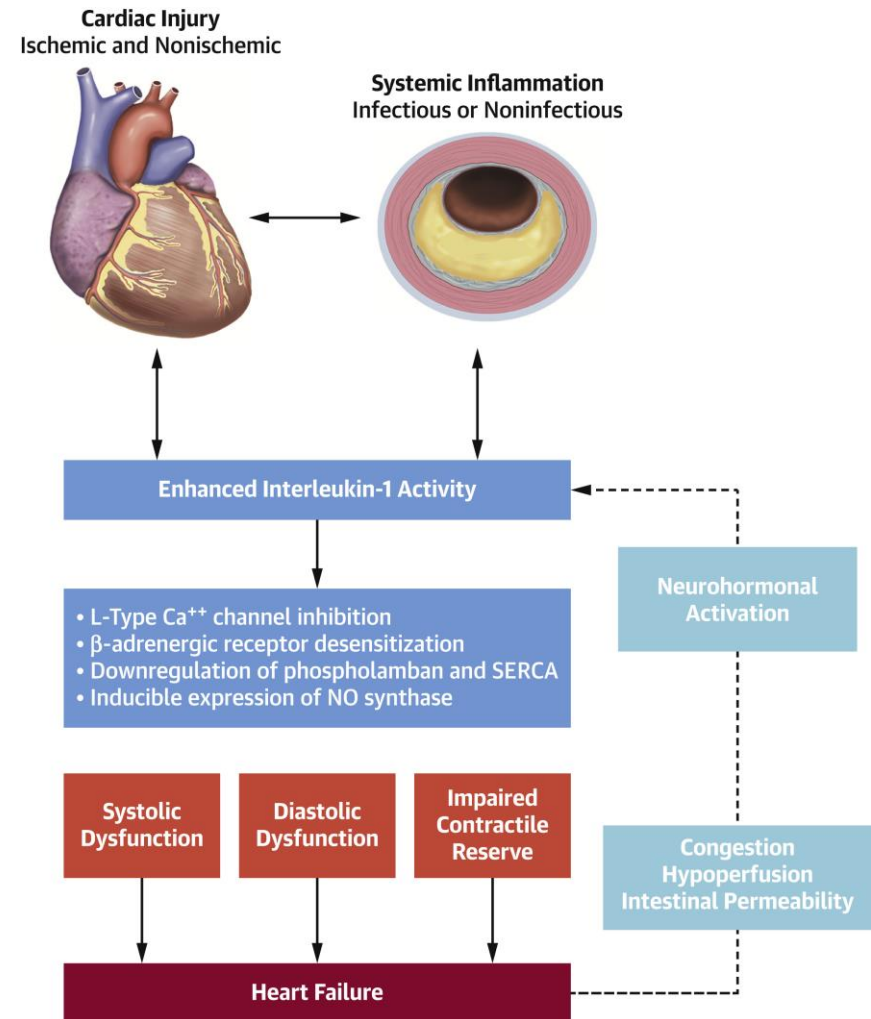
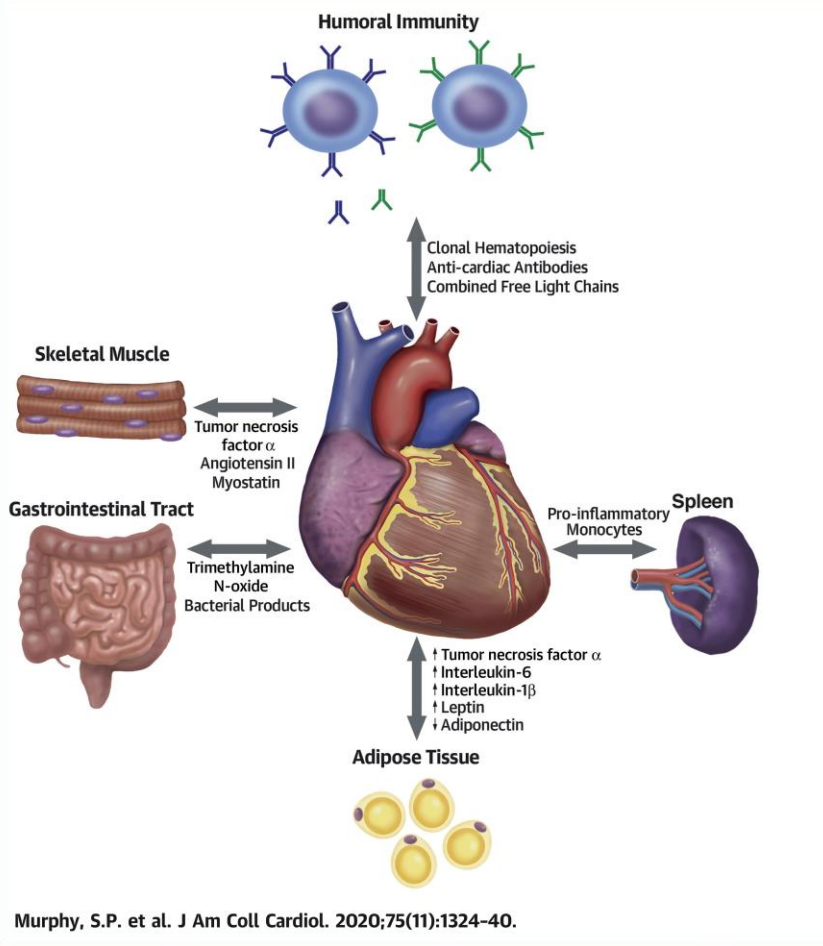


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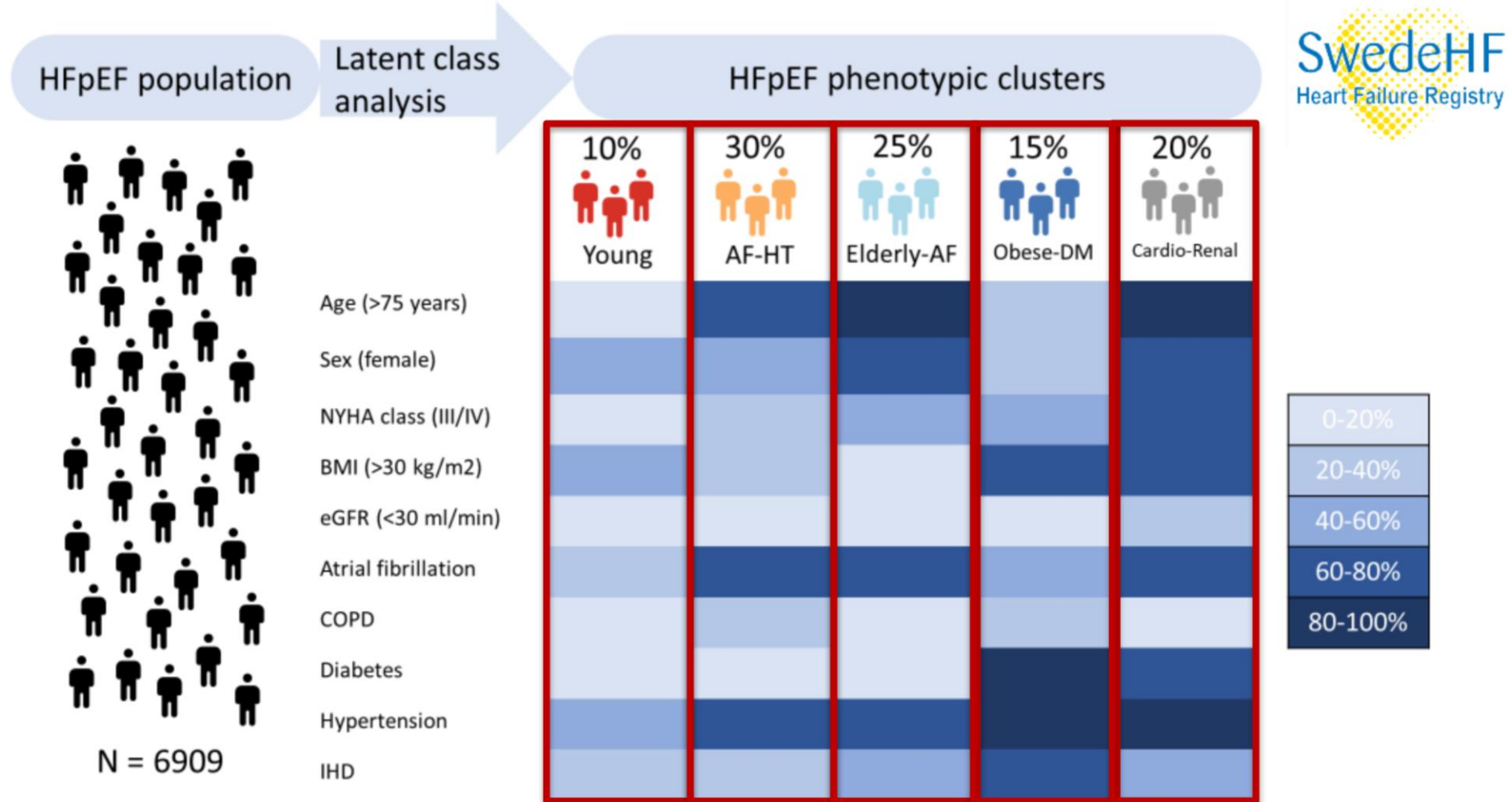


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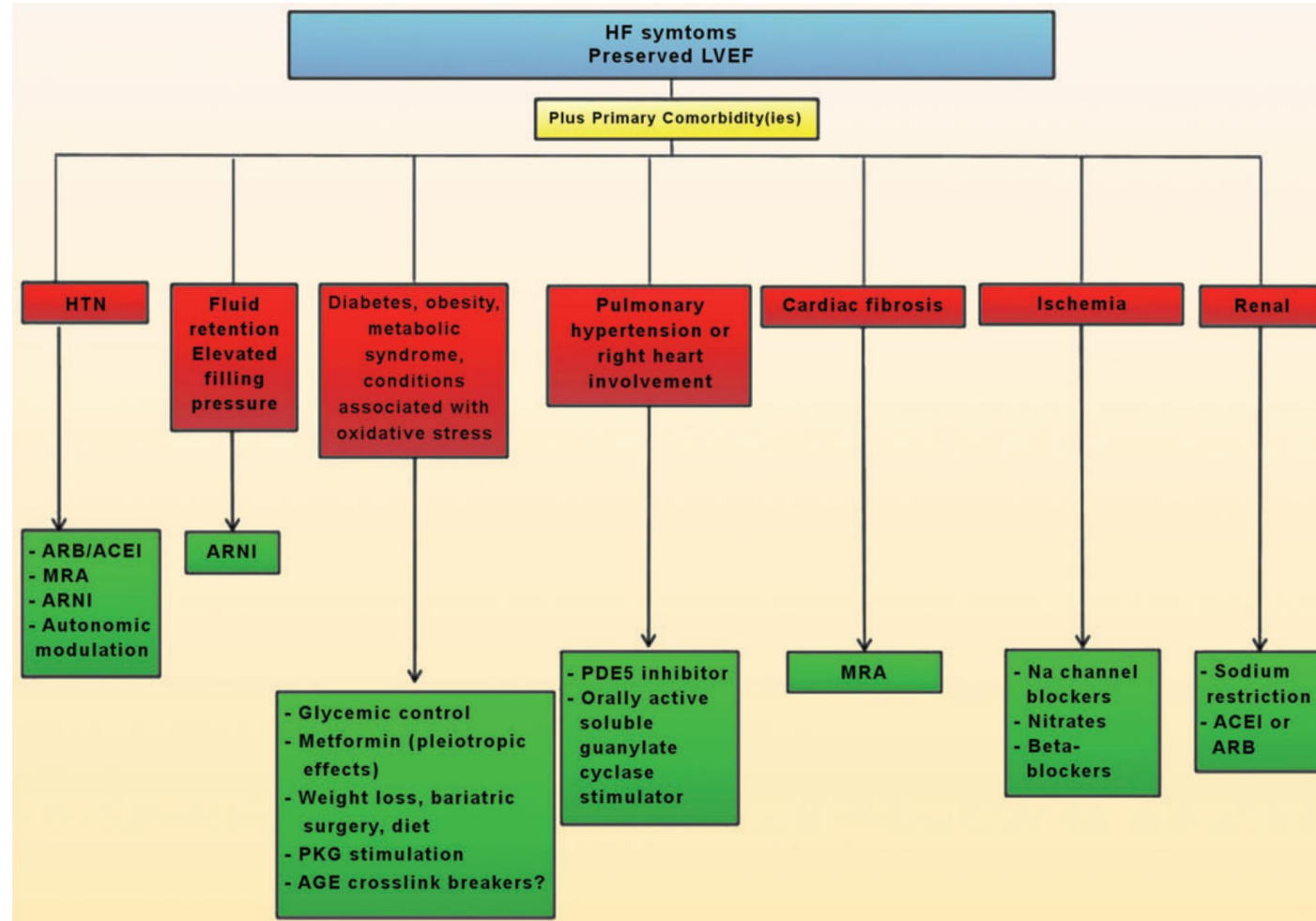
CENTRAL ILLUSTRATION: Multiorgan Contributions to Inflammation in Heart Failure



Going from risk factors to phenotypes



Have we been targeting phenotypes before phenotypes were defined?



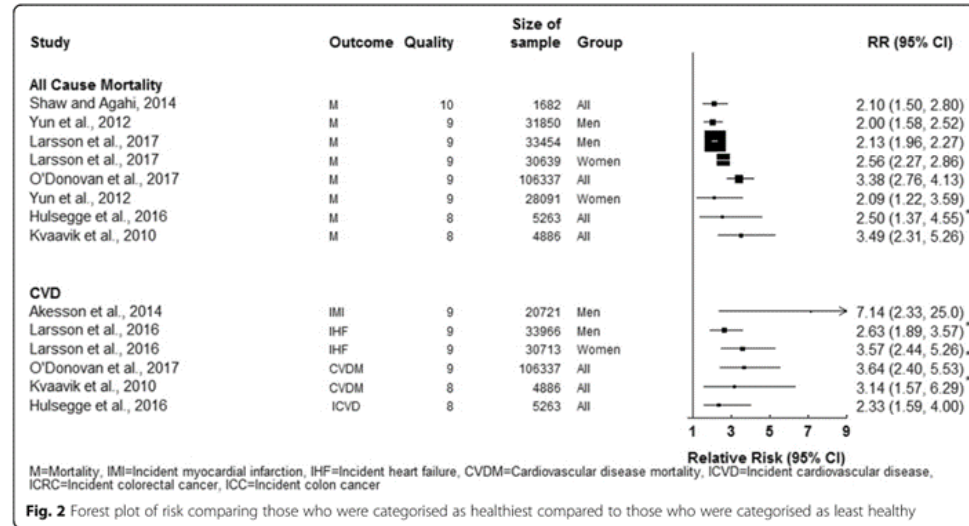
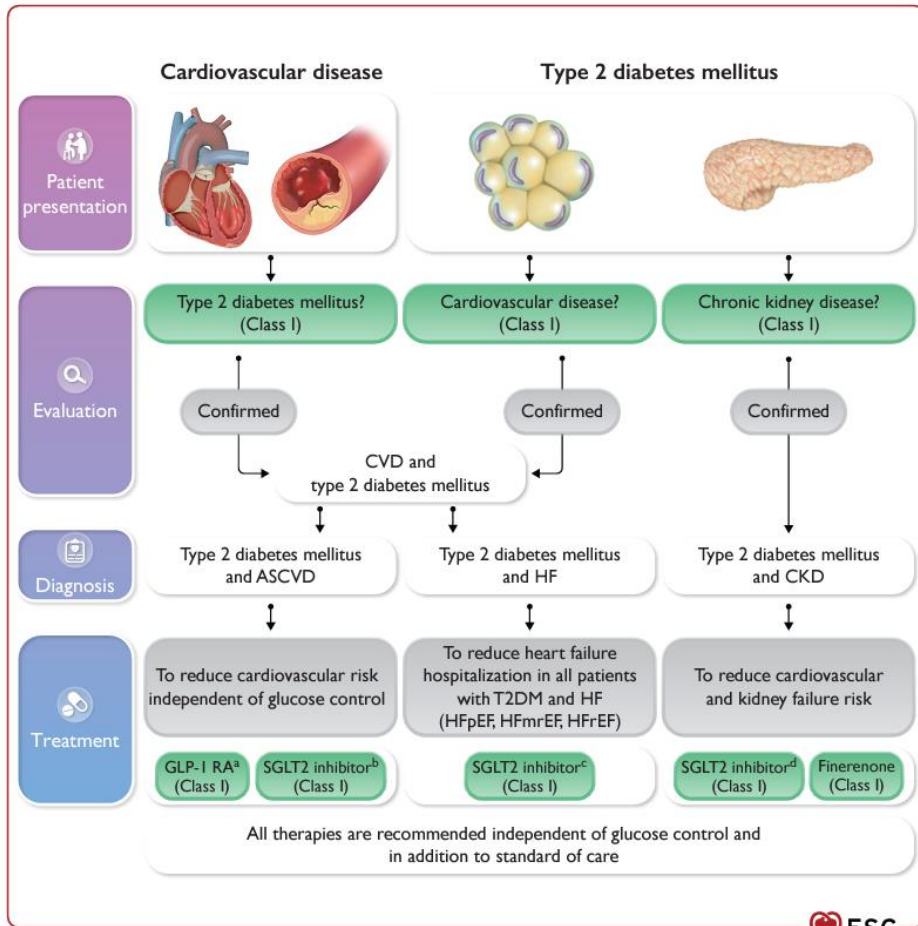
Can we get out of here?



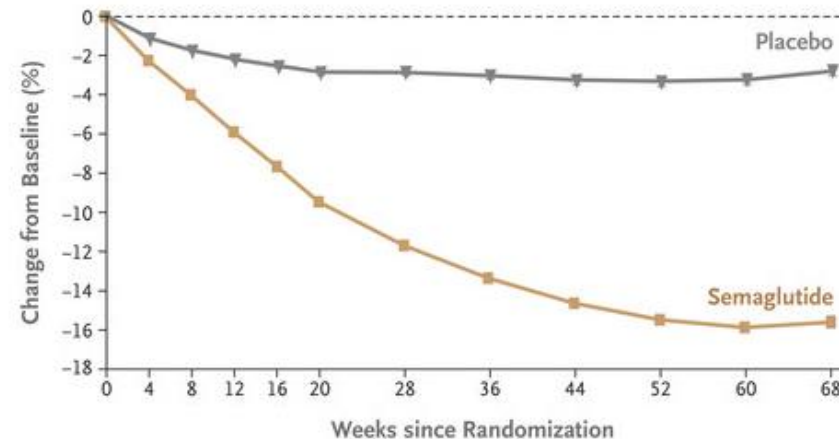
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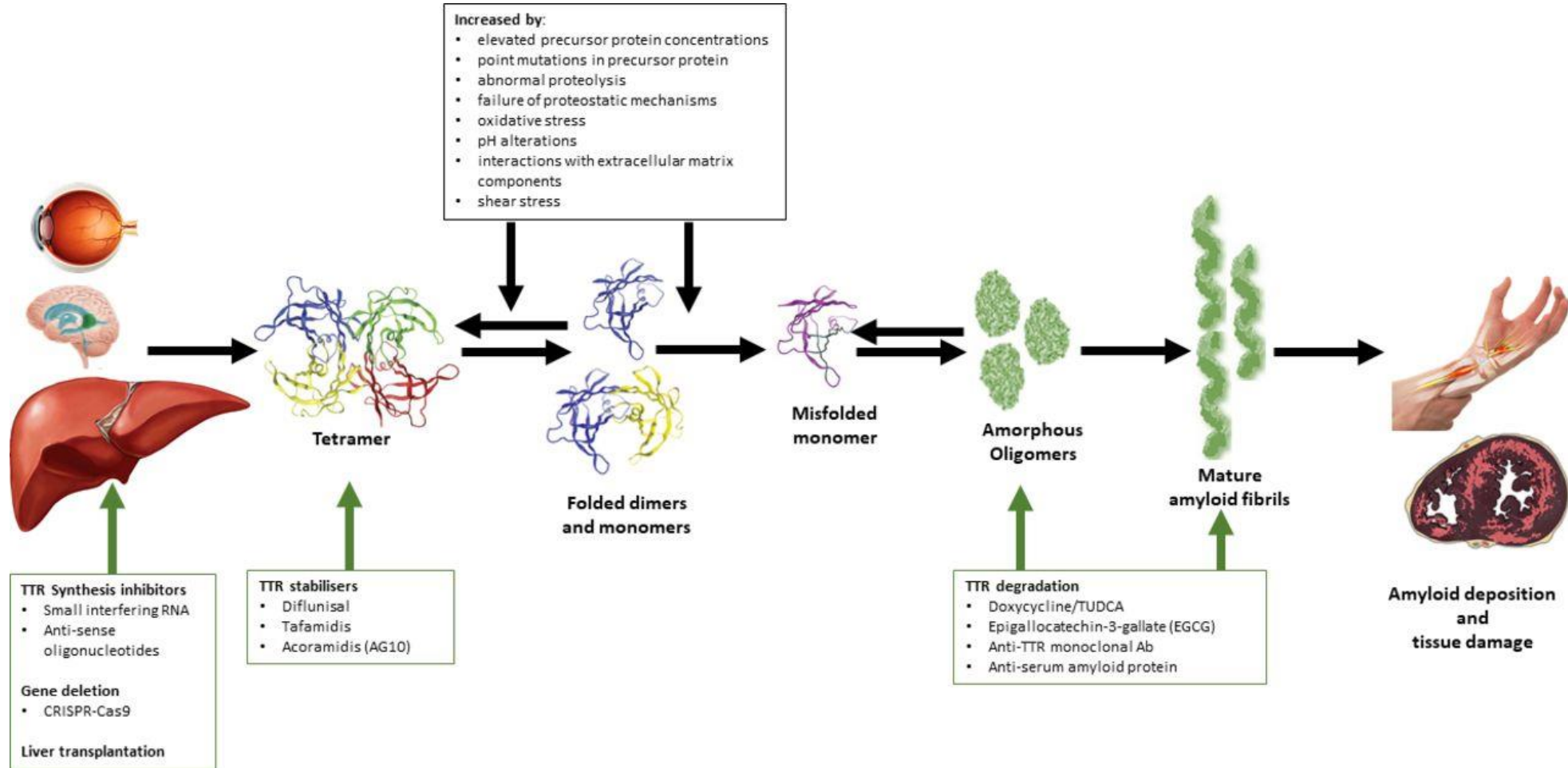
Body Weight Change from Baseline by Week, Observed In-Trial Data



No. at Risk

Placebo	655	649	641	619	615	603	592	571	554	549	540	577
Semaglutide	1306	1290	1281	1262	1252	1248	1232	1228	1207	1203	1190	1212

Risk factors that we still can't control



Heart Failure with Preserved Ejection Fraction?



**Metabolic
Cardiorespiratory
Muscular Dysfunction?**

