XII Meeting. State of the Art in

HEART FAILURE

CLINICAL PRACTICE AND ORGANIZATIONAL MODELS

Venue: Hotel Meliá María Pita, A Coruña

A Coruña 26-27 September 2025

A Coruña Heart Failure Academy

#ACORUÑAHF2025

HFpEF. What to investigate and how to treat?
IC con FEVI preservada. Qué investigar y cómo tratar?

Marta Cobo Marcos

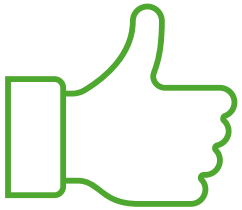
Cardiología. Hospital Universitario Puerta de Hierro Majadahonda

SERVIZO GALEGO DE SAÚDE · ÁREA SANITARIA DA CORUÑA E CEE · inibic · SOCIEDADE GALEGA DE CARDIOLOXÍA · UNIVERSIDADE DA CORUÑA · ciber | CV · UNIÓN EUROPEA Fondo Europeo de Desarrollo Regional · XUNTA DE GALICIA · galicia

Clinical Case: CARMEN:

83 Years Old
Arterial Hypertension. Obesity (BMI:31 kg/m^2)
CKD IIIB (Cr: 1,5-1,6 mg/dL)

EVOLUCIÓN
Enfermedad actual
Enero 2023: Solicitada econsulta por clínica de disnea con elevación de NTproBNP de 550 aprox y Rx tórax con datos de IC y cardiomegalia. Exploración anodina según el MAP. Halbamos con paciente, disnea GF II-III /IV. Asociada opresión precordial ocasional con esfuerzos. Ya estudiada en 2016 por opresión precordial. Iniciado tto con dapagliflozina, adiro 100 y furosemida, control analítico MAP. No signos de gravedad. Se solicita ETT + ecg + ergometría + analítica con microalbuminuria.



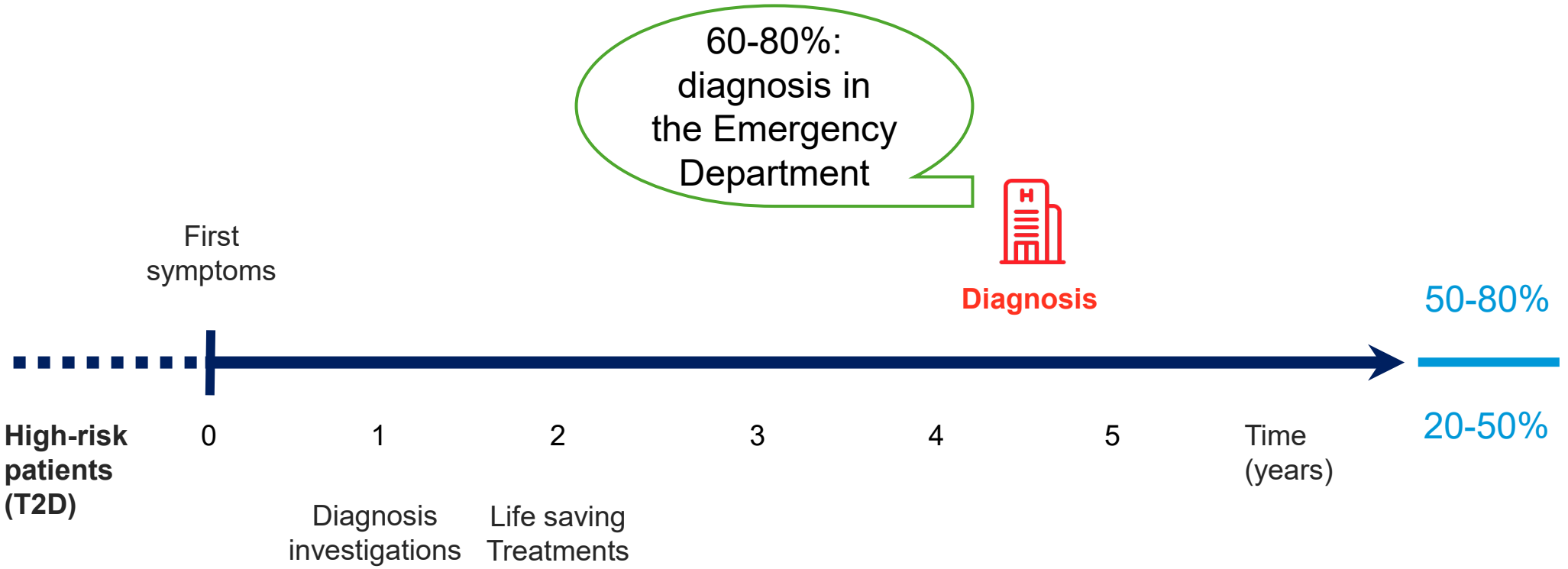
GP: Clinical suspicion: Dyspnea + X-Ray + NTproBNP: 550 pg/mL

Clinical Pathway: Telematic consult

Early HF therapy: Dapagliflozin

Initial Work-up: Echo + Ergometry + Blood Test/Albuminuria

HF diagnosis is late



1. Bottle A et al. Heart. 2018; 2. Hayhoe B et al. Heart. 2019

H_2FPEF score

		Definition	Points
H_2	Heavy	BMI > 30 Kg/m²	2
	Hypertensive	≥2 antihypertensive drugs	1
F	Atrial Fibrillation	Atrial fibrillation	3
P	Pulmonary hypertension	Estimated PASP > 35 mmHg	1
E	Elder	Age > 60 years	1
F	Filling pressures	E/e'>9	1

HFA-PEFF score

	Definition	Points
Functional	Averaged E/e' 9-14 Global longitudinal strain <16% TRV > 2.8 m/s	1
	Averaged E/e' ≥15 Septal e'<7 (<75 years) / <5 (≥75 years) Lateral e'<10 (<75 years) / <7 (≥75 years)	2
Morphological	LAVi 29-34 mL/m² LVMi ≥ 95 (SR) / 115 (AF) g/m² RWT < 0.42 LV septum ≥ 12 mm	1
	LAVi > 34 mL/m² LVMi ≥ 122 (SR) / 1149 (AF) g/m2 and RWT< 0.42	2
Biomarkers	NT-proBNP 125-220 ng/L (SR) or 365-660 (AF)	1
	NT-proBNP >220 ng/L (SR) or >660 (AF)	2

≥6 points: **HFpEF diagnosis**

3-5 points: intermediate

2-4 points: intermediate

≥5 points: **HFpEF diagnosis**

Consider **diastolic stress test** (+/- cardiopulmonary exercise testing) or invasive haemodynamic mesurements

Núñez Marín G. Cardiorenal Med. 2025;15(1):108-121

ESC European Society of Cardiology

European Journal of Heart Failure (2023)
doi:10.1002/ejhf.3036

POSITION PAPER

Practical algorithms for early diagnosis of heart failure and heart stress using NT-proBNP: A clinical consensus statement from the Heart Failure Association of the ESC

Antoni Bayes-Genis[1]*, Kieran F. Docherty[2], Mark C. Petrie[2], James L. Januzzi[3], Christian Mueller[4], Lisa Anderson[5], Biykem Bozkurt[6], Javed Butler[7], Ovidiu Chioncel[8], John G.F. Cleland[9], Ruxandra Christodorescu[10], Stefano Del Prato[11], Finn Gustafsson[12], Carolyn S.P. Lam[13], Brenda Moura[14,15], Rodica Pop-Busui[16], Petar Seferovic[17,18], Maurizio Volterrani[19,20], Muthiah Vaduganathan[21], Marco Metra[22], and Giuseppe Rosano[23]

Suspected *de novo* Heart Failure as an
Outpatient
(History, physical exam, ECG)

NT-proBNP

Rule-out	Grey zone	Age-adjusted Rule-in	High-risk Rule-in
≤ 125pg/mL		<50y: ≥ 125pg/mL 50-74y: ≥ 250pg/mL ≥75y: ≥ 500pg/mL	≥ 2,000pg/mL
	Consider obesity, race-based variations, and treatment (diuretics, RASi, MRA)		
Heart Failure Very Unlikely	**Heart Failure Not Likely**	**Heart Failure Likely**	**Heart Failure Very High-Risk**
Evaluation for a non-cardiac cause advised	Consider alternative diagnosis If clinical suspicion remains, arrange echocardiography	Treat as appropriate Arrange for Echocardiography (≤ 6 weeks)	Priority Echocardiography and evaluation by Heart Failure team (≤ 2 weeks)

Screening for
Heart Stress
in Asymptomatic patients with T2D
(or other risk factors for CVD)

NT-proBNP

Rule-out	Grey zone	Age-adjusted Rule-in
≤ 50pg/mL		<50y: ≥ 75pg/mL 50-74y: ≥ 150pg/mL ≥75y: ≥ 300pg/mL
Heart Stress Very Unlikely	**Heart Stress Not Likely**	**Heart Stress Likely**
Repeat NT-proBNP in one year	Repeat NT-proBNP in 6 months	Arrange Echocardiography Assessment by Heart Failure team if cardiac dysfunction present

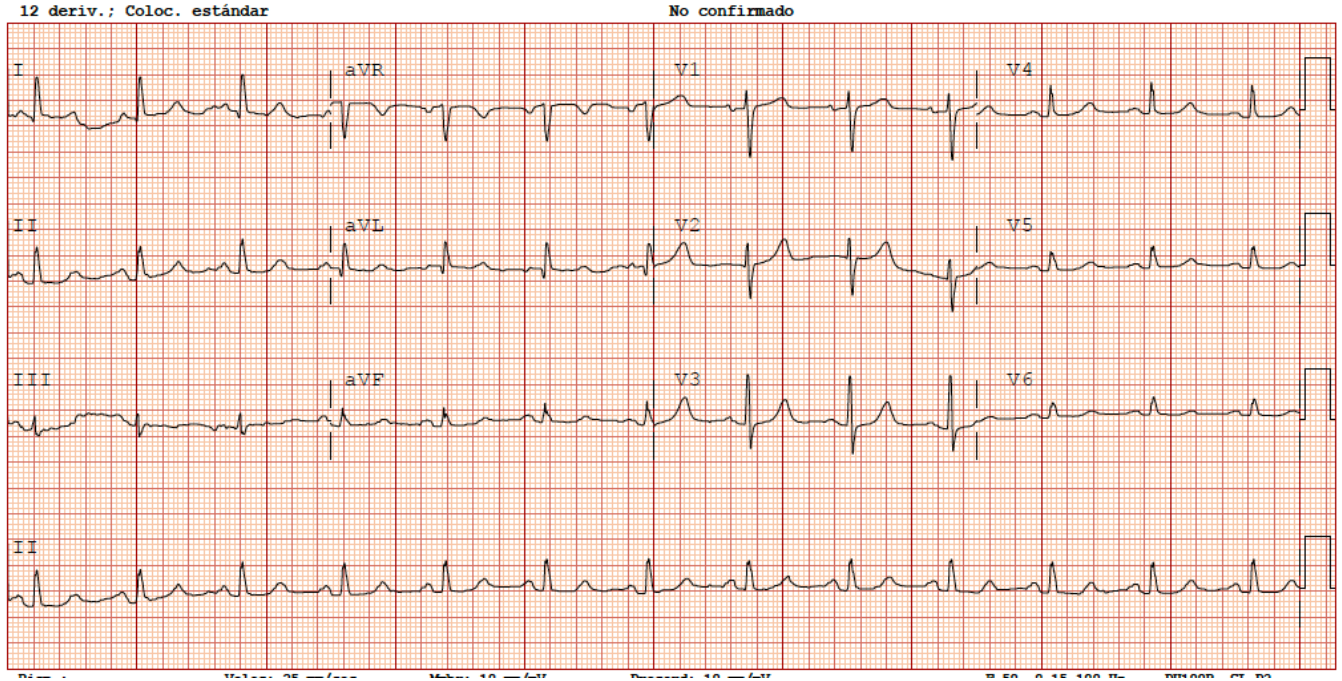
European Journal of Heart Failure (2023) 25, 1891–1898

Clinical Case: 6 months later...

Julio 2023: acude a revisión, clínicamente mejor, presentó la opresión referida en contexto de infección covid, actualmente asintomática en ese aspecto aunque mantiene disnea de moderados esfuerzos y ligeros edemas en mmii, según la paciente crónicos, a mi valoración escasa fóvea con varios signos de insuficiencia venosa crónica.. TAS en domicilio habitual 120-130 mmHg. Importante fragilidad capilar. Fue valorada en Nefrología.

Laboratory findings

- NT-proBNP: 1100 pg/mL
- Troponin I hs: 75 ng/L (0-39)
- Ca125 antigen: 40 U/ml
- Creatinine: 1.45 mg/dL
- eGFR: 37 mL/min/1.73m2
- Albuminuria: -
- Colesterol: 157 mg/dL
  - LDL: 88 mg/dL



Maximal negative exercise stress test. Transthoracic echocardiogram

Medidas de las Auriculas

Dimensión AI: 3,7 cm
Vol AI (2C): 65,2 ml
Vol AI (2C) indexado: 35,5 ml/m²
Vol AI (4C): 50,2 ml
Vol AI (4C) indexado: 27,3 ml/m²
Area AD ts (4C): 10,8 cm²

Medidas de la Valvula Mitral

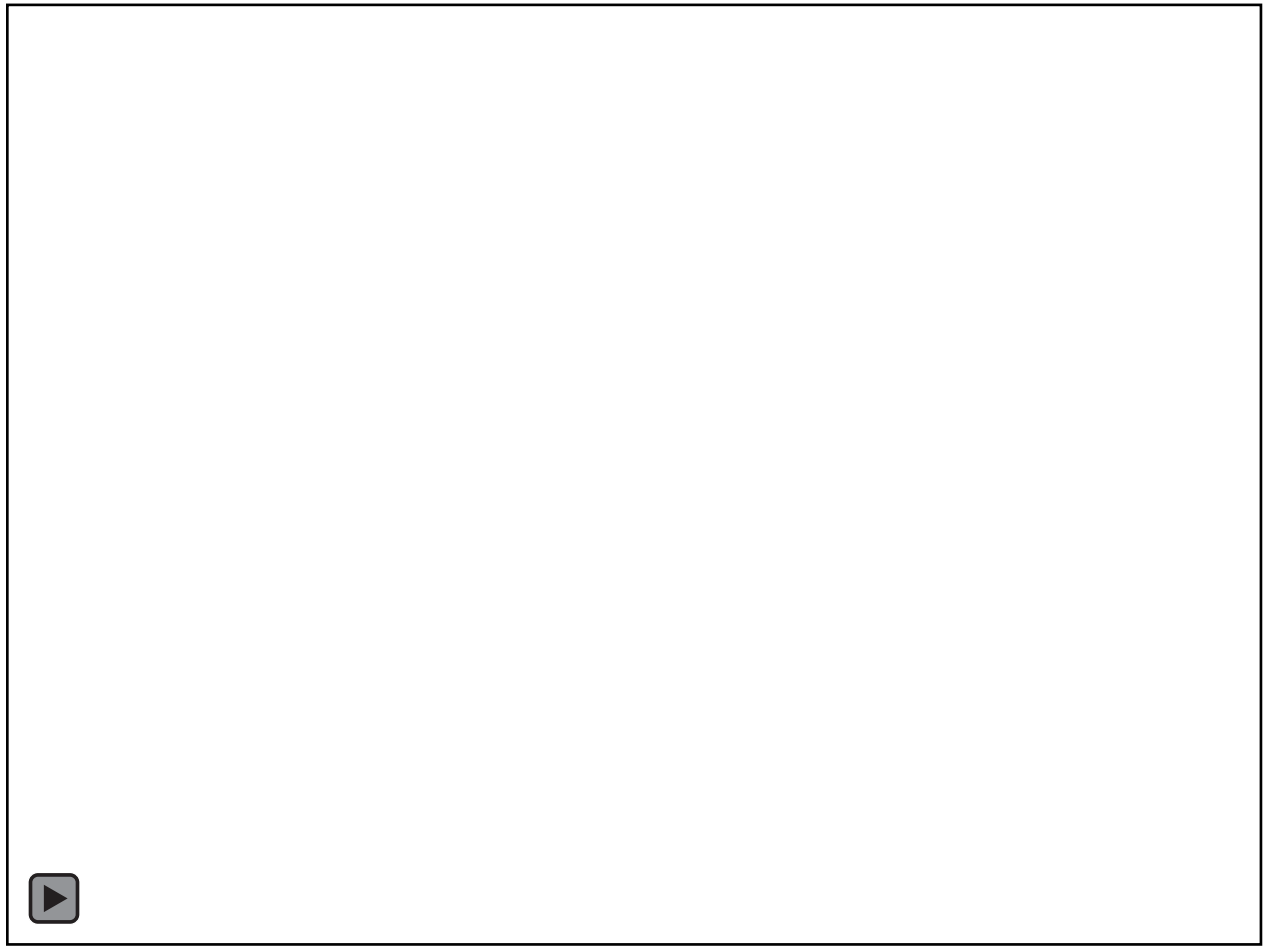
Onda E VM: 58,7 cm/s
E/E' medial: 8,3
V.max A VM: 81,2 cm/s
E/E' lateral: 5,5

Medidas de la Valvula Tricuspide

GP max IT: 33,0 mmHg
Vmáx IT: 287,1 cm/s

Vol AI (BP): 58,7 ml
Vol AI (BP) indexado: 31,9 ml/m²

E/A VM: 0,72
V.máx E' lat. VM: 10,7 cm/s
V.máx E' med. VM: 7,1 cm/s



Non-dilated left ventricle, normal LVEF, mild septal LVH (12 mm), mild LA dilatation, moderate tricuspid regurgitation, estimated PASP 40 mmHg. Impaired relaxation

H_2FPEF score

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Dyspnoea Clinic

Cardiopulmonary exercise test combined with echocardiography

Semi-supine bicycle individualized ramp protocol (10-15 min)
Echo images at baseline, VT1 & maximal effort:

- 4-Ch, 2-Ch, 3-Ch & RV focused views
- Tissue Doppler annulus
- PW Mitral inflow & Medial e'
- PW Aortic outflow
- TRV with systematic agitated colloid

Laboratory testing

Total blood count, iron parameters, HbA1c, serum creatinine, NT-proBNP

Clinical evaluation & chart review

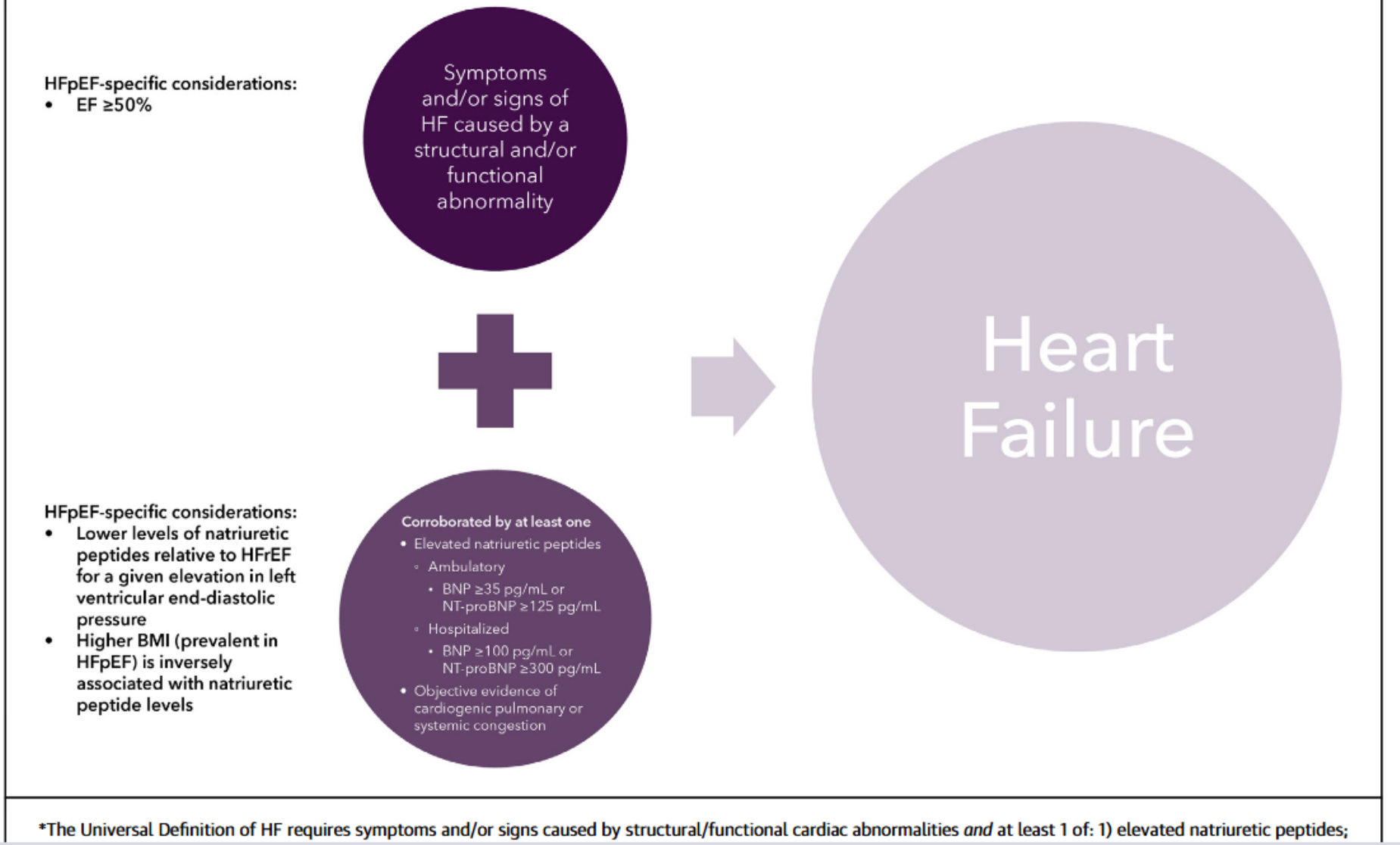
Certified cardiologist and pulmonologist

Spirometry

Transthoracic echocardiography & 12-lead ECG at rest

Verwerft J. et al. European Heart Journal (2023) 44, 1544–1556

FIGURE 2 **The Universal Definition of HF***



*The Universal Definition of HF requires symptoms and/or signs caused by structural/functional cardiac abnormalities *and* at least 1 of: 1) elevated natriuretic peptides;

. J Am Coll Cardiol. 2023 May 9;81(18):1835-1878

Clinical Case

Juicio clínico
- Insuficiencia cardiaca con FEVI preservada.

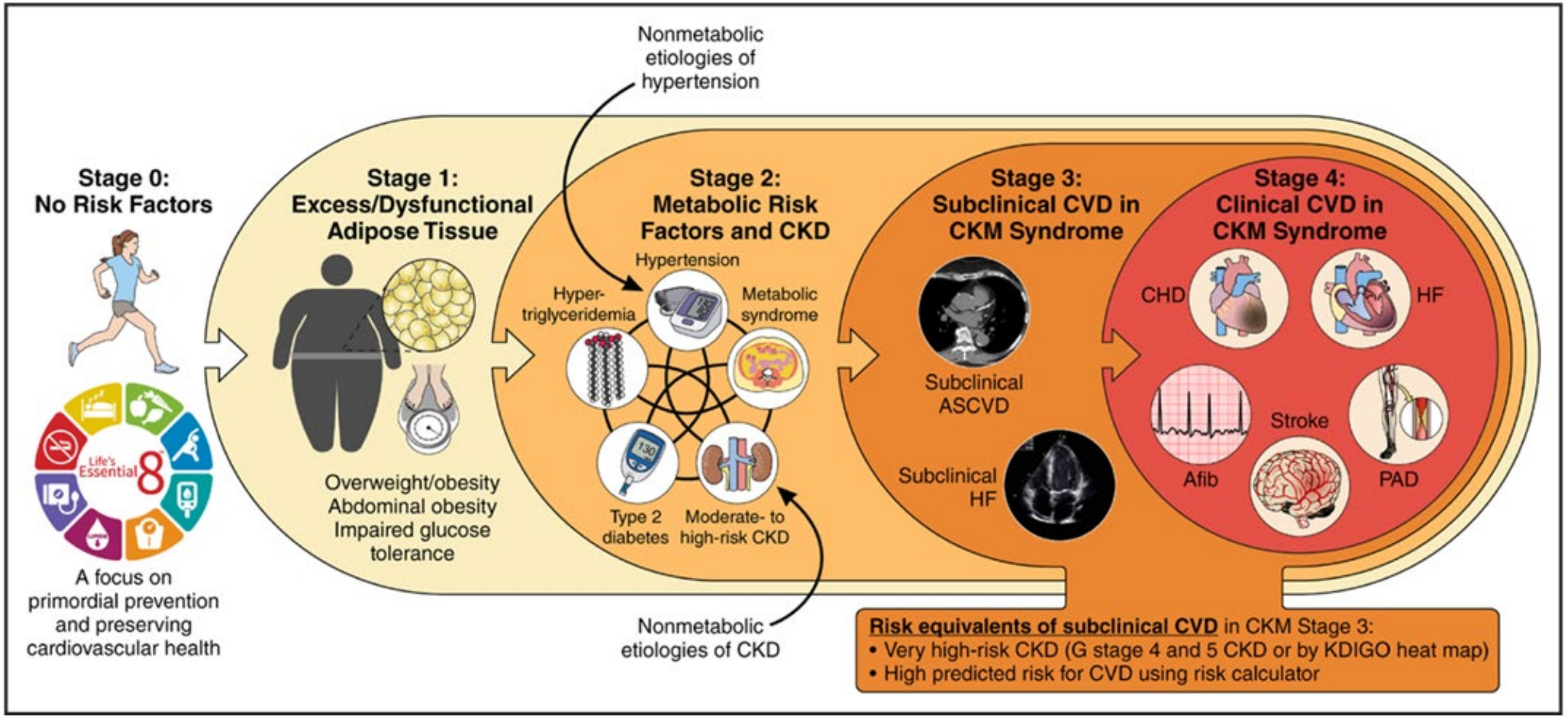
Tratamiento y recomendaciones
- Aumentar FUROSEMIDA 40 mg a: 1 comprimido en desayuno y comida durante 1 semana. Posteriormente volver a la dosis de 1 comprimido en el desayuno.
- Suspender Adiro.
- Resto de medicación sin cambios.

Escasos signos congestivos y clara mejoría clínica, de momento con la resolución del dolor torácico al mejorar la infección y con ergometría negativa no progreso en el estudio de dolor torácico. Revisión en 6 meses con analítica y ECG.
Peso diario en ayunas, en caso de ganancia de 1 kg de un día a otro debe aumentar dosis de furosemida según explicado.

Diagnosis: HFpEF
- No changes in treatment
- No more tests
- Revision in 6 months

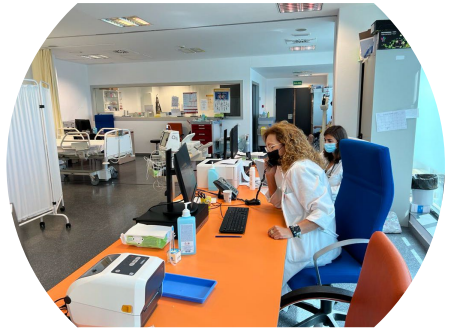
Could we have offered Carmen anything else?

Cardio-Kidney-Metabolic Disease



Ndumedele CE. Circulation. 2023 Nov 14;148(20):1606-1635.

Clinical Case: CARDIORENAL UNIT

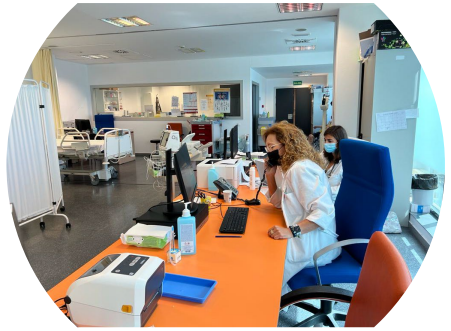


enero 24
Dra Cobo/Dra Marques
Remitida para valoración por nefrología.
Actualmente parece estable de control de FRCV y de congestión con tratamiento referido.
CF II, no palpitaciones, dolor torácico ni sincope.
Si destaca IMC mayor de 30 pero no DM
NTproBNP no demasiado elevado (menor 1000), pero CA125 levemente elevado. no proteinuria.

PEso 86, TA: 147/75. FC: 83. Sat: 95%. No ortopnea, No datos congestivos.
VCI no dilatada (14 mm), colapso adecuado, Porta sin variación y sin líneas B. No valvulopatías.

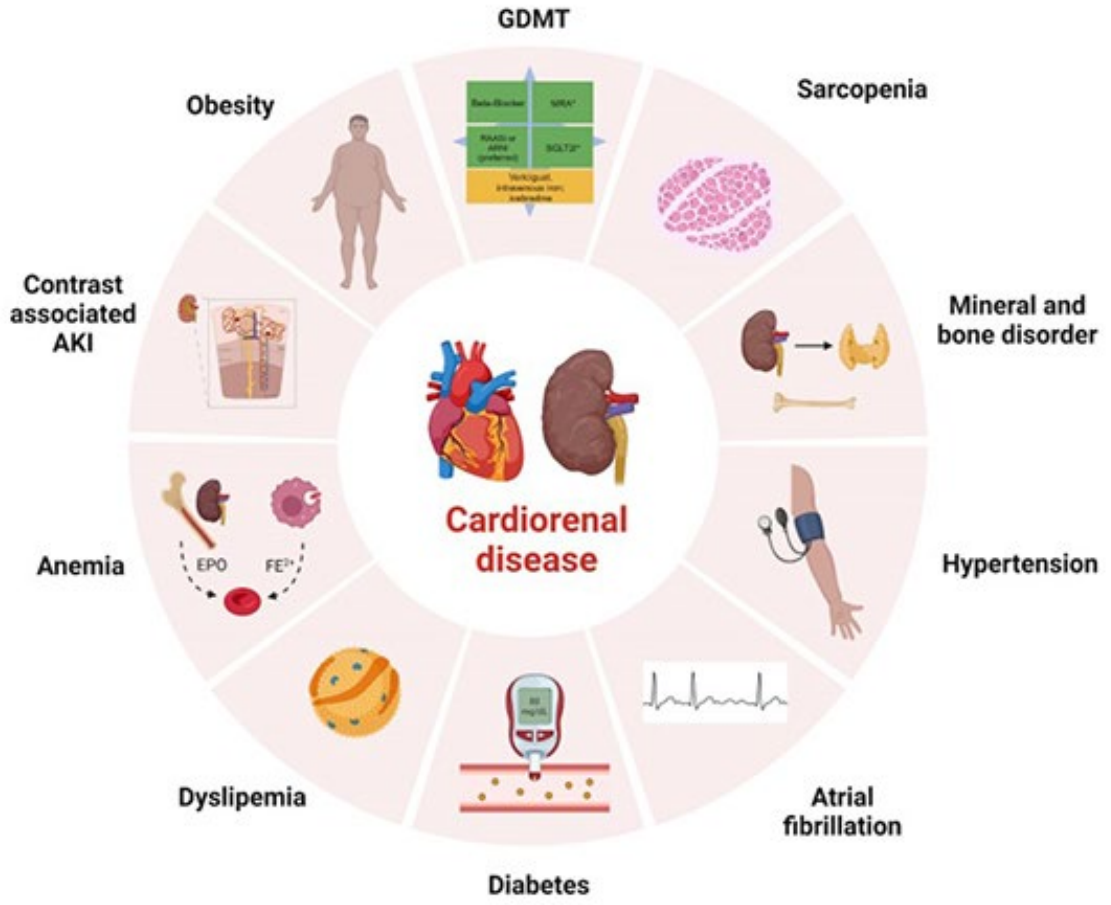
INICIAR
RYBELSUS 3 MG: 1 COMPRIMIDO DIARIO, EN AYUNAS
EN 1 MES SI BUENA TOLERANCIA
RYBELSUS 7 MG: 1 COMPRIMIDO DIARIO, EN AYUNAS
EN 1 MES, SI BUENA TOLERANCIA:
RYBELSUS 14 MG: 1 COMPRIMIDO DIARIO

Clinical Case: CARDIORENAL UNIT



Cardiorenal Medicine

10.1159/000538125



Clinical Case: CARDIORENAL UNIT

Soliictamos estudio amiloidosis y eco renal.
Damos eduación en IC y teléfono de contacto.

European Heart Journal Advance Access published July 28, 2015

European Heart Journal
doi:10.1093/eurheartj/ehv338

CLINICAL RESEARCH
Heart failure/cardiomyopathy

Wild-type transth… …ause of heart failure w… …ction

Esther González-López[1], Maria Gallego… …zzo-Merello[1], F. Javier de Haro-del Moral[2], Marta Cobo-Marcos[1], Carolina Robles[1], Belén Bornstein[3,4,5], Clara Salas[6], Enrique Lara-Pezzi[7], Luis Alonso-Pulpon[1], and Pablo Garcia-Pavia[1,7]*

13%: Amyloidosis

- > 60 years old
- HFpEF
- LVH >12 mm

General Rule

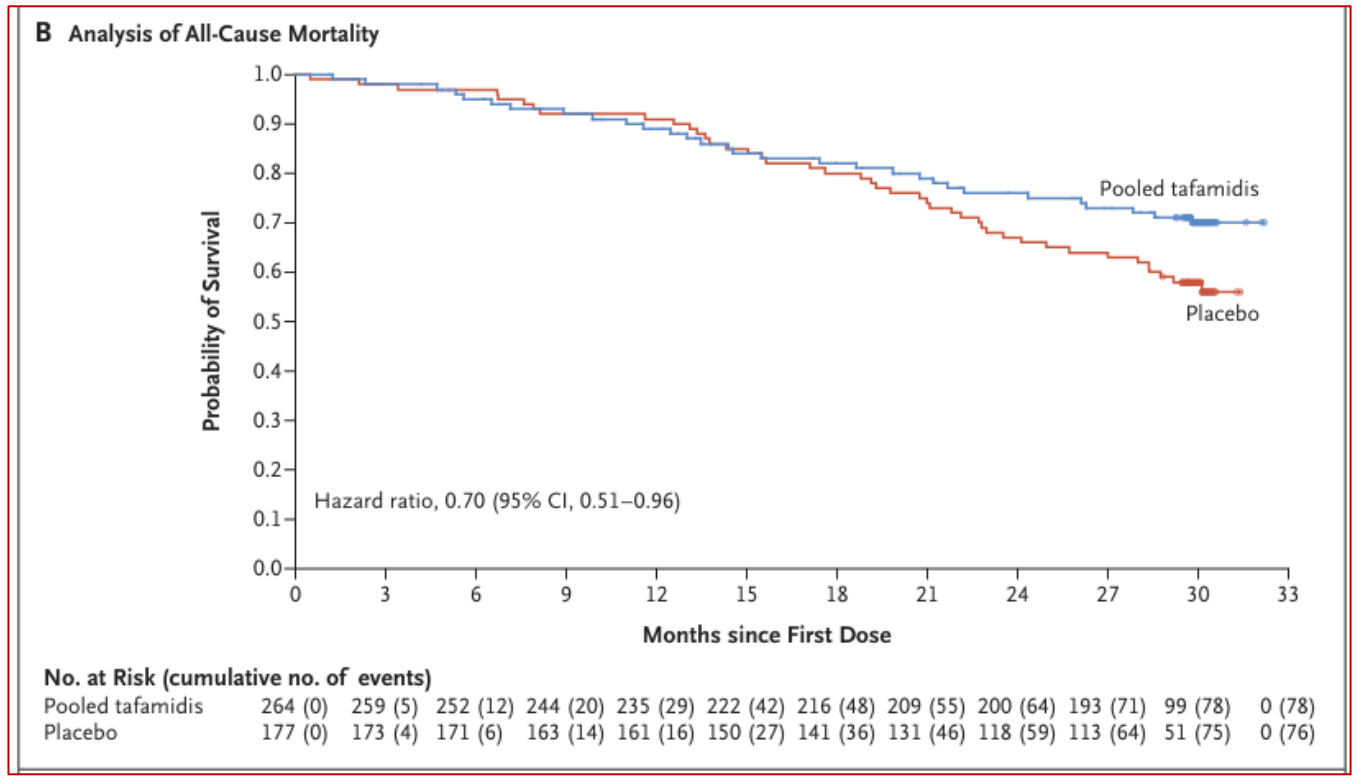
ATTR-CM is a progressive disease and available therapies do not tackle directly amyloid deposits so….

The earlier the better

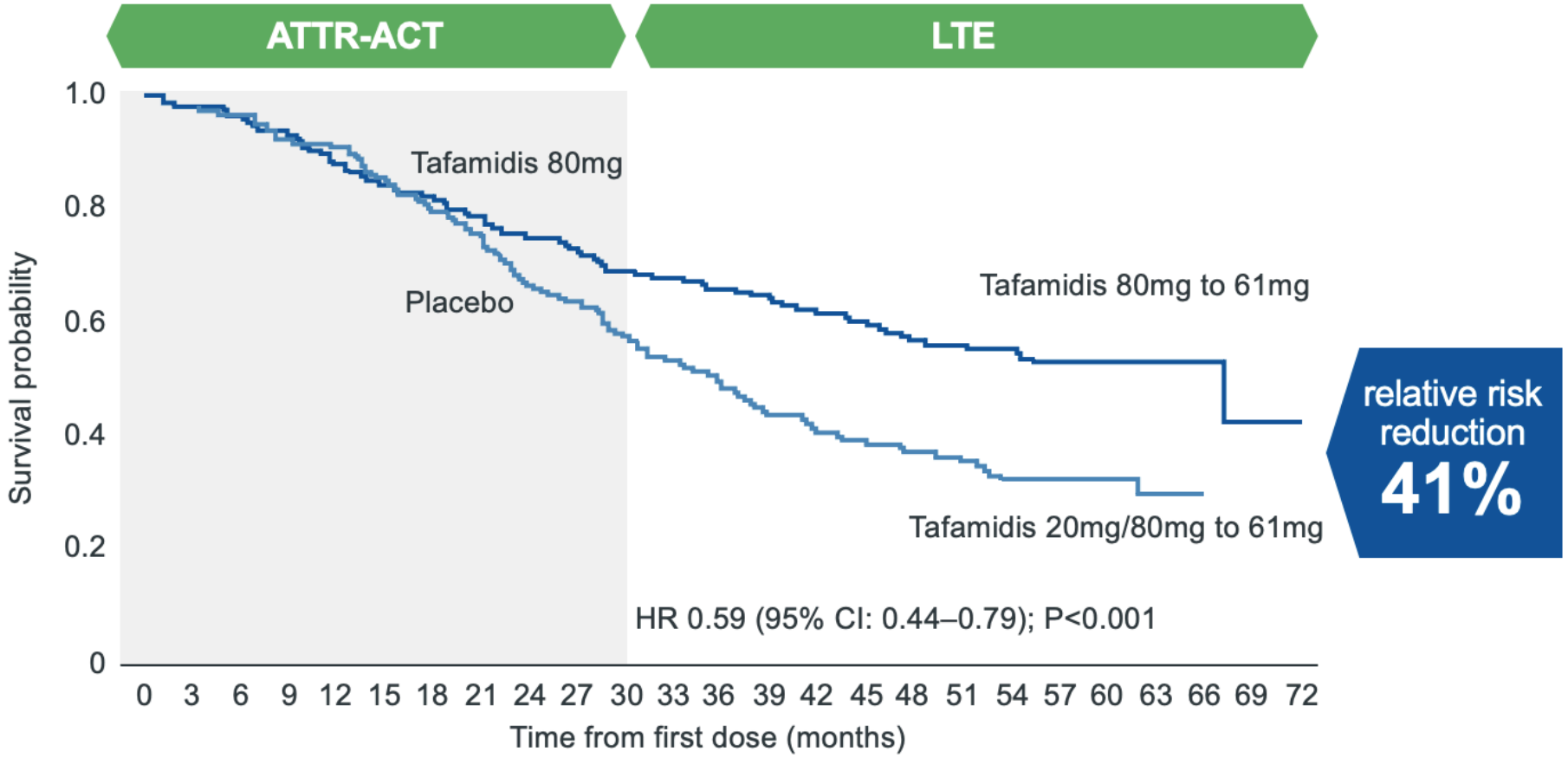
The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 SEPTEMBER 13, 2018 VOL. 379 NO. 11

Tafamidis Treatment for Patients with Transthyretin Amyloid Cardiomyopathy



Tafamidis
Survival at 5 years

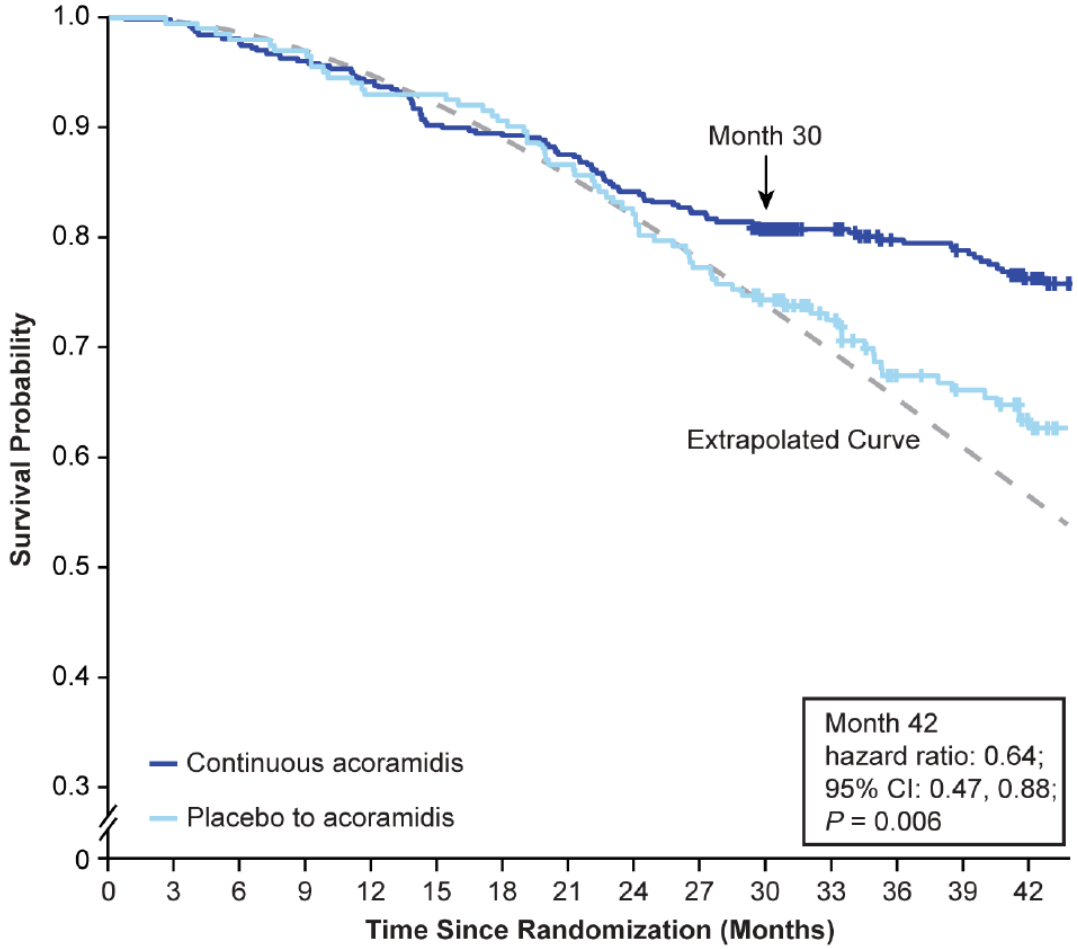


Survival at 5 years: 53.2%.
Median Follow-up: 58.5 months

Survival at 5 years: 32.4%.
Median Follow-up: 57.1 months

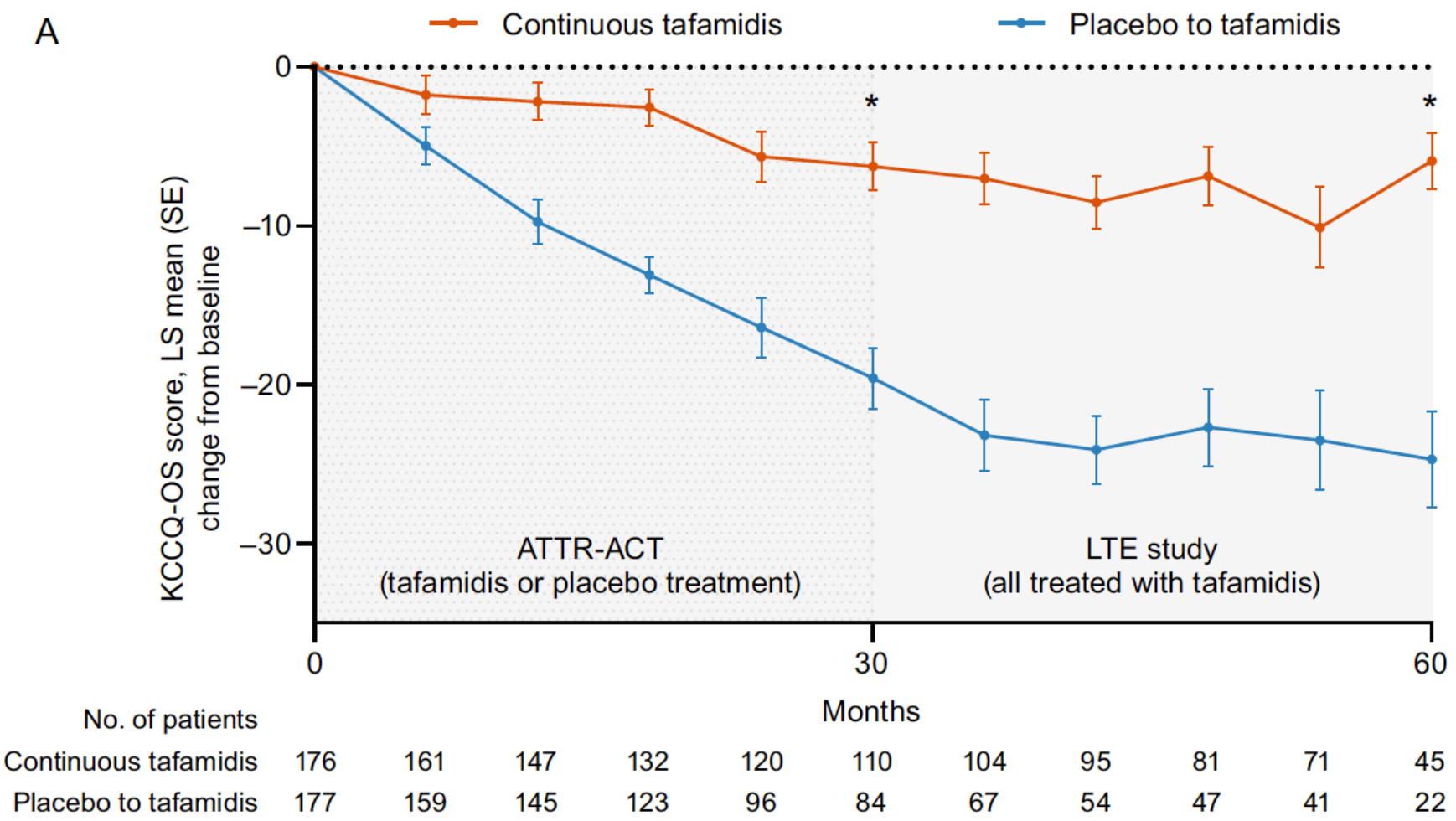
Elliott PM et al. Circ Heart Fail. 2022 Jan;15(1):

Acoramidis
Survival at 42 months



Judge et alCirculation. 2025 Mar 4;151(9):601-611

Long-Term impact in Quality of Life



Grogan et al. Eur J Heart Fail. 2024 Mar;26(3):612-615.

Amyloidosis diagnosis

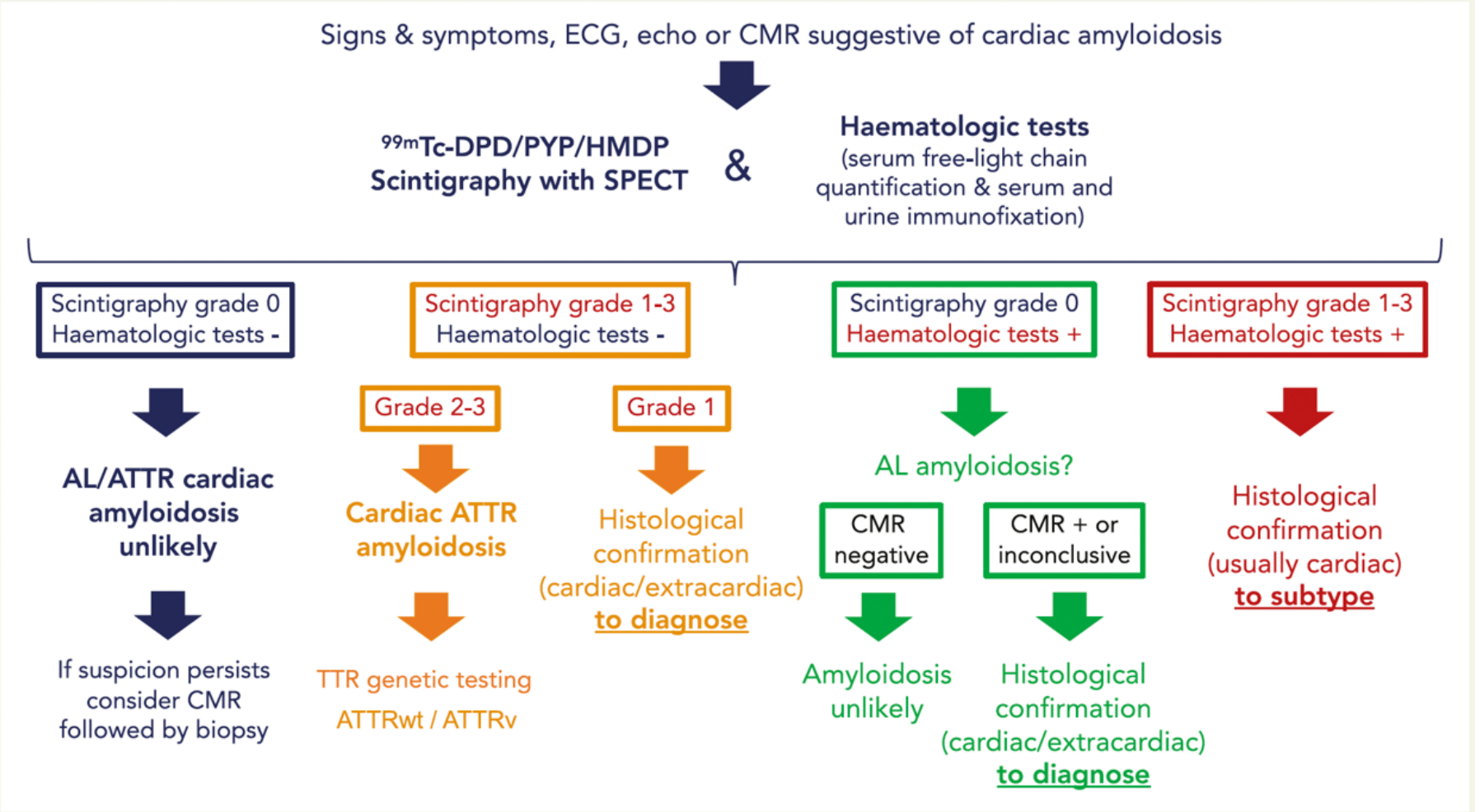
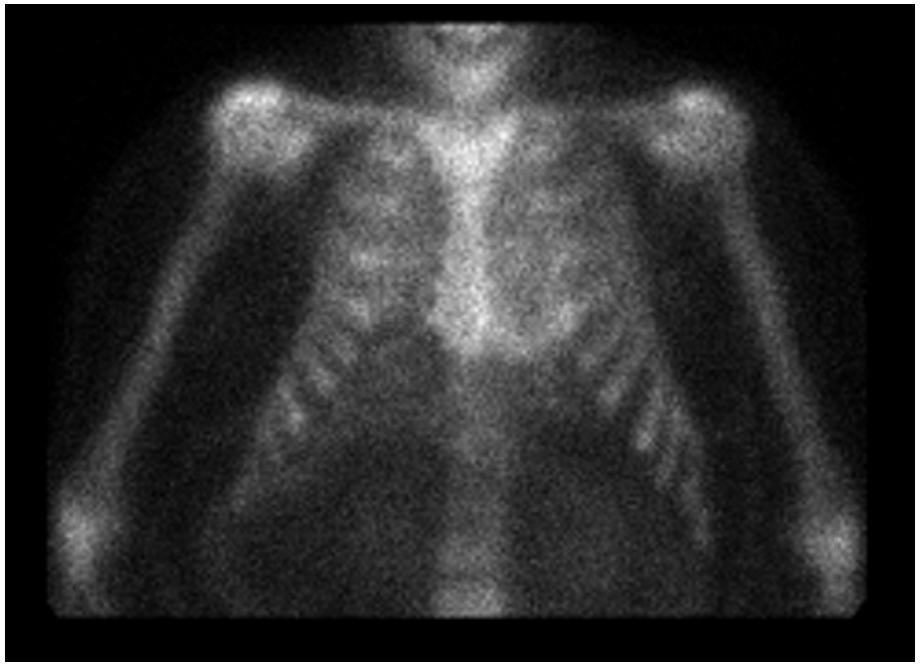


Figure 4 Diagnostic algorithm for cardiac amyloidosis. AL, light-chain amyloidosis;ATTR, transthyretin amyloidosis; ATTRv, hereditary transthyretin amyloidosis; ATTRwt, wild-type transthyretin amyloidosis; CMR, cardiac magnetic resonance; ECG, electrocardiogram; SPECT, single photon emission computed tomography; TTR, transthyretin.

Carmen



- Perugini grade 2

- Kappa 19.55 mg/L (3.3 - 19.4),
- Lambda 14.34 mg/L (5.71 - 28.3)
- Kappa/Lambda: 1.36
- **Urine immunofixation:BENCE JONES LAMBDA**
- Serum immunofixation: Normal

Amyloidosis diagnosis

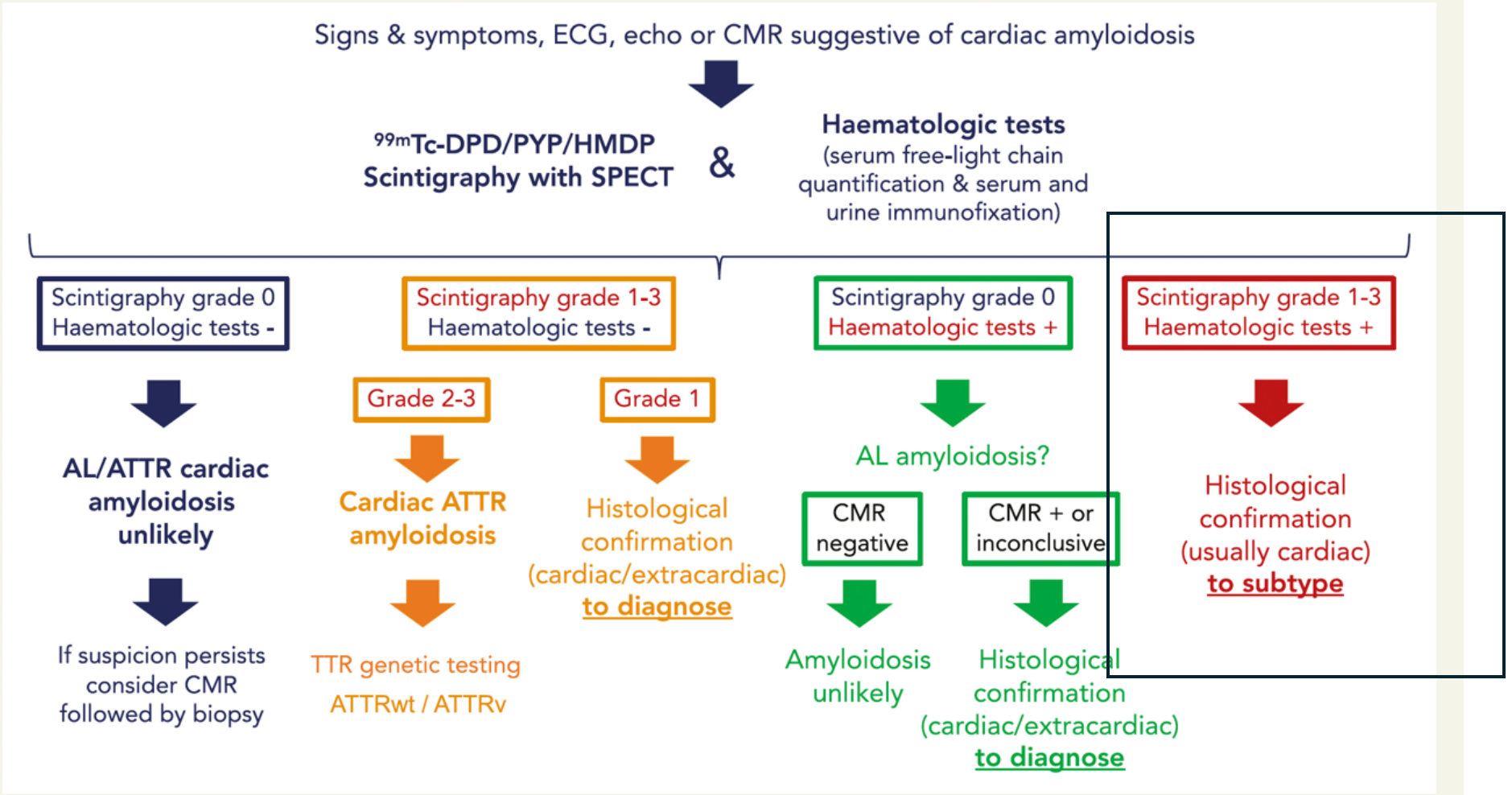
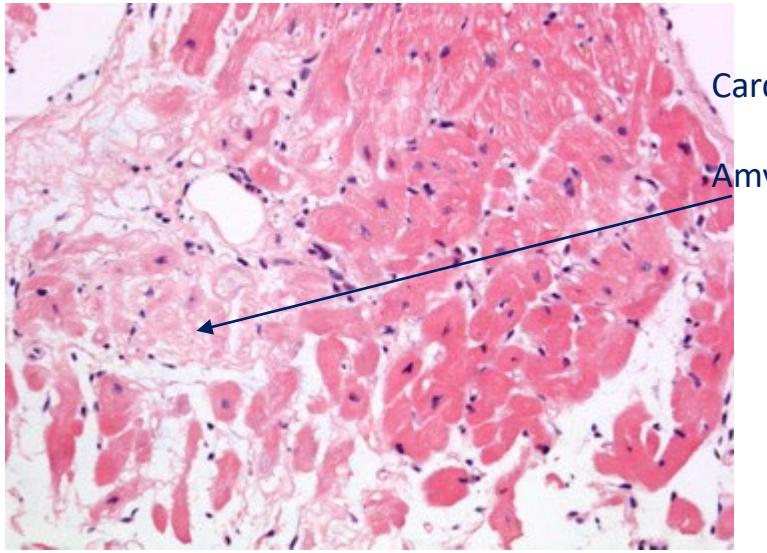


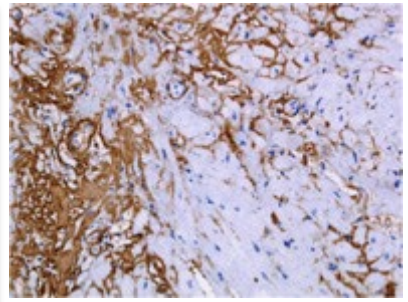
Figure 4 Diagnostic algorithm for cardiac amyloidosis. AL, light-chain amyloidosis;ATTR, transthyretin amyloidosis; ATTRv, hereditary transthyretin amyloidosis; ATTRwt, wild-type transthyretin amyloidosis; CMR, cardiac magnetic resonance; ECG, electrocardiogram; SPECT, single photon emission computed tomography; TTR, transthyretin.

Carmen

- ✓ Polaryzed microscopy
- ✓ Congo red staining

EMB:





TTR Amyloidosis

Genetic Testing to Rule Out Familial Amyloidosis

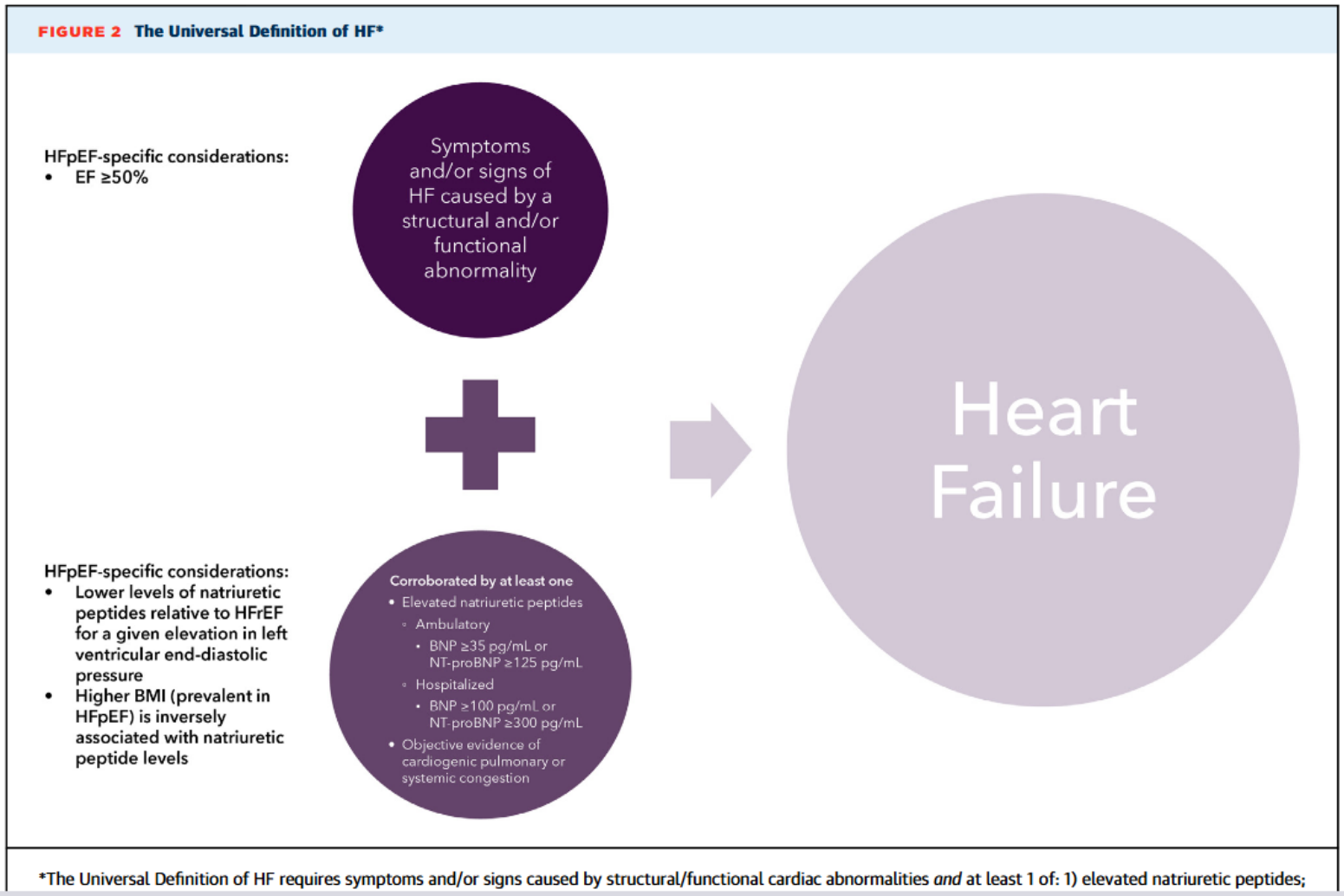
ATTRwt diagnosis

The patient initiated treatment with TAFAMIDIS 61 mg

Last visit:
NYHA II
BMI: 28 kg/m^2
NTproBNP: 728 pg/ml
eGFR: 35 ml/min/1,73 m^2
Echo: Normal LVEF. IVS width 12 mm.

1

FIGURE 2 The Universal Definition of HF*



*The Universal Definition of HF requires symptoms and/or signs caused by structural/functional cardiac abnormalities *and* at least 1 of: 1) elevated natriuretic peptides;

Fatigue

Increased water accumulation

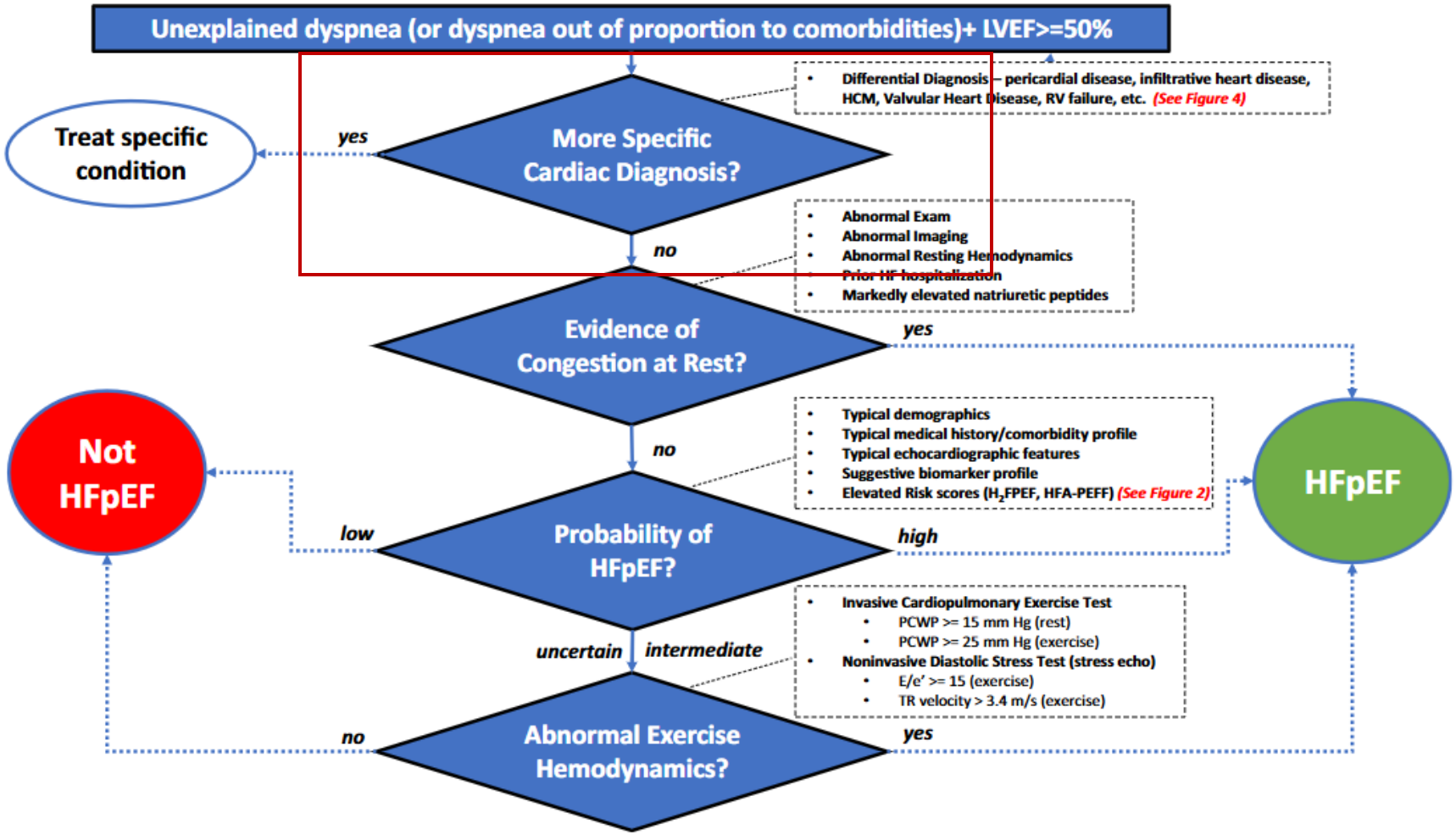
Natriuretic peptide testing

Dyspnoea

HF – heart failure

2

FIGURE 1 A Suggested Algorithm for Establishing the Diagnosis of HFpEF



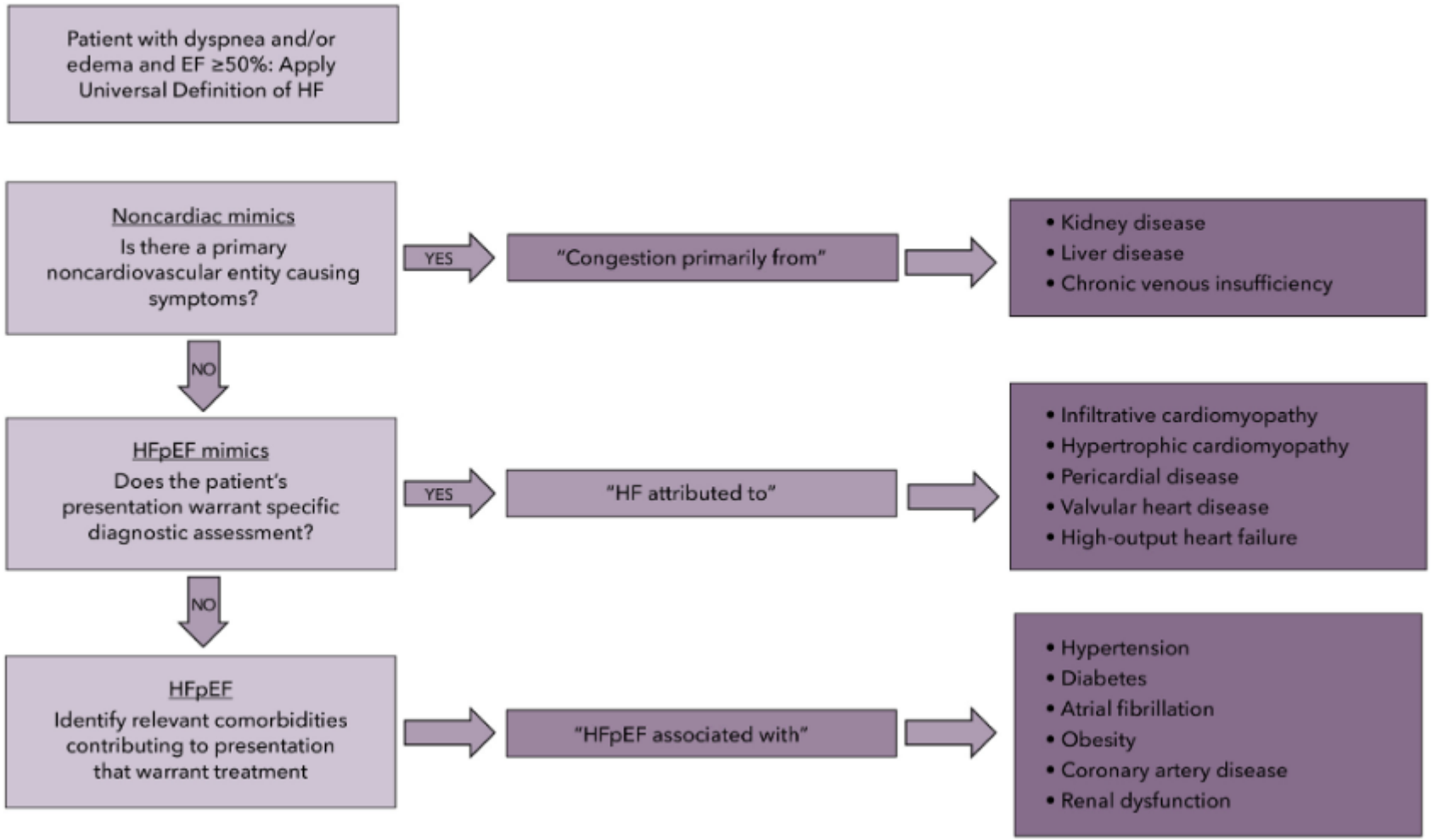
3

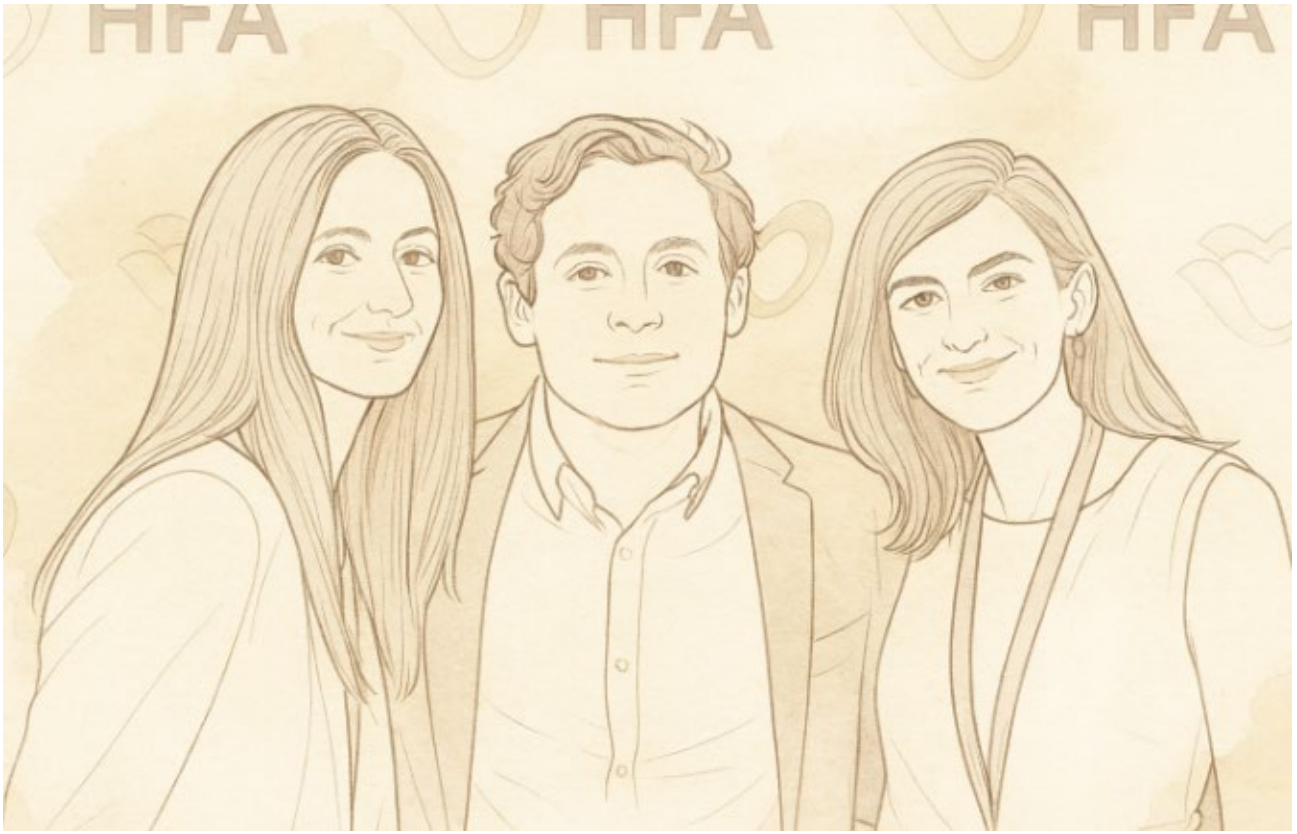
TABLE 2 Management of Key Noncardiac and Cardiac Comorbidities in Patients With HFpEF

Condition	Recommended Strategies
Hypertension	• Management of BP to guideline-recommended targets, typically <130/80 mm Hg
Diabetes/dysglycemia	• Prioritize SGLT2 inhibitors (as in all patients) • ACE inhibitor/ARB for CKD/proteinuria • Finerenone for ongoing proteinuria despite ACE inhibitor/ARB
Obesity	• Routine recommendation for calorie restriction, aerobic exercise training • Screening and treatment of obstructive sleep apnea • Consider GLP-1 agonists, tirzepatide, bariatric surgery?
Chronic kidney disease	• ACE inhibitor/ARB for proteinuria • SGLT2 inhibitors • Finerenone (if diabetes and ongoing proteinuria despite ACE inhibitor/ARB)
Coronary artery disease/ coronary microvascular dysfunction	• Antiplatelet therapy • Moderate-high intensity statin therapy for those with elevated LDL • Revascularization for patients with angina or ischemia on provocative testing
Atrial fibrillation	• Anticoagulation for stroke prophylaxis • Consider trial of rhythm control
Chronotropic incompetence	• Avoid routine use of beta-blockers in absence of compelling indication

ACE = angiotensin-converting enzyme; ARB = angiotensin receptor blocker; BP = blood pressure; CKD = chronic kidney disease; GLP = glucagon-like peptide; LDL = low-density lipoprotein; SGLT2 = sodium-glucose cotransporter-2; other abbreviation as in Table 1.

FIGURE 8 **Stepwise Approach to Assessment of Individuals With Shortness of Breath and/or Edema**




HFA
HFA
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