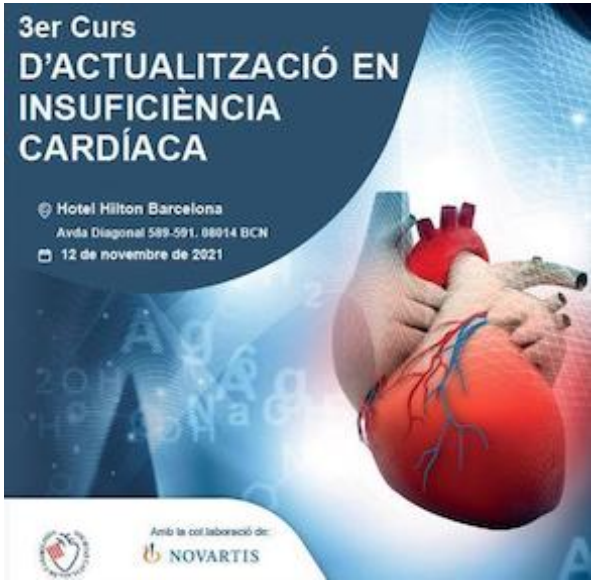
Principales cambios en diferentes escenarios: ¿QUÉ HACEMOS EN LA DESCOMPENSACIÓN?

Dr. José Luis Morales-Rull
Servicio de Medicina Interna
Unidad de Insuficiencia Cardiaca
Hospital Universitario Arnau de Vilanova
Grupo NUTRIMMIC - IRBLleida



ESC
European Society of Cardiology

European Heart Journal (2021) **42**, 3599–3726
doi:10.1093/eurheartj/ehab368

ESC GUIDELINES

2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure

Developed by the Task Force for the diagnosis and treatment of acute and chronic heart failure of the European Society of Cardiology (ESC)

With the special contribution of the Heart Failure Association (HFA) of the ESC

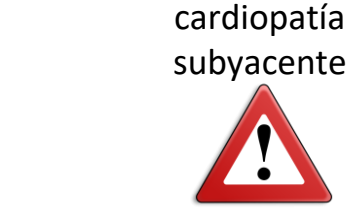

OLD
WAY
NEW
WAY

Insuficiencia cardiaca en la causa principal de ingreso en >65 años

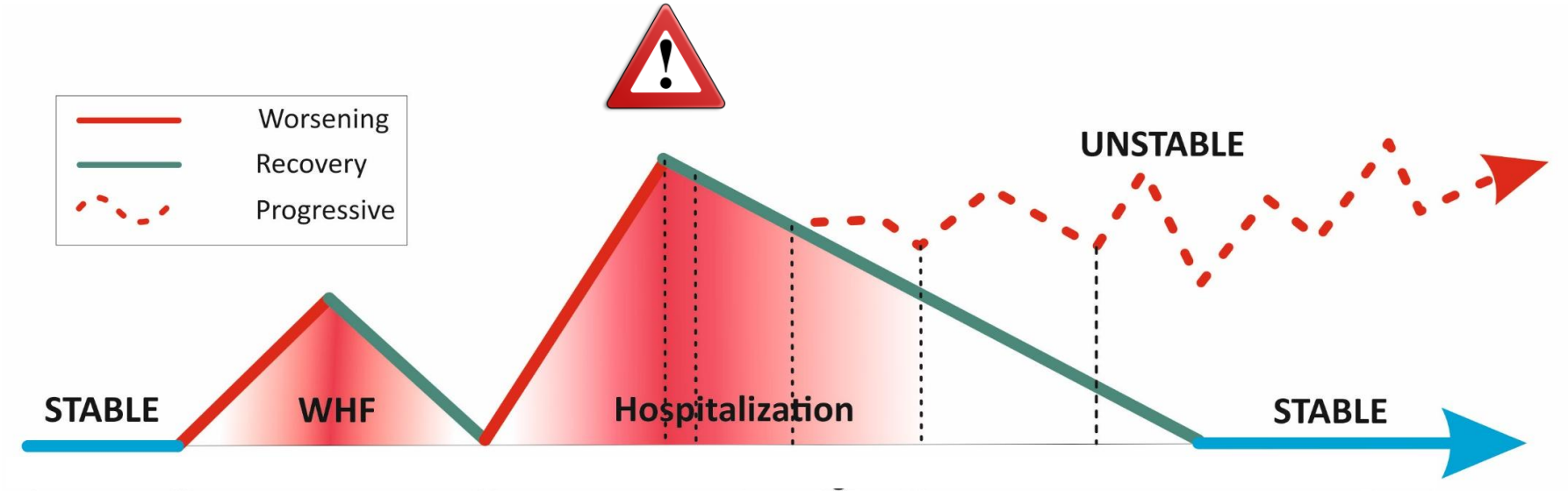
4-10%
mortalidad intrahospitalaria

25-30%
mortalidad anual desde el ingreso

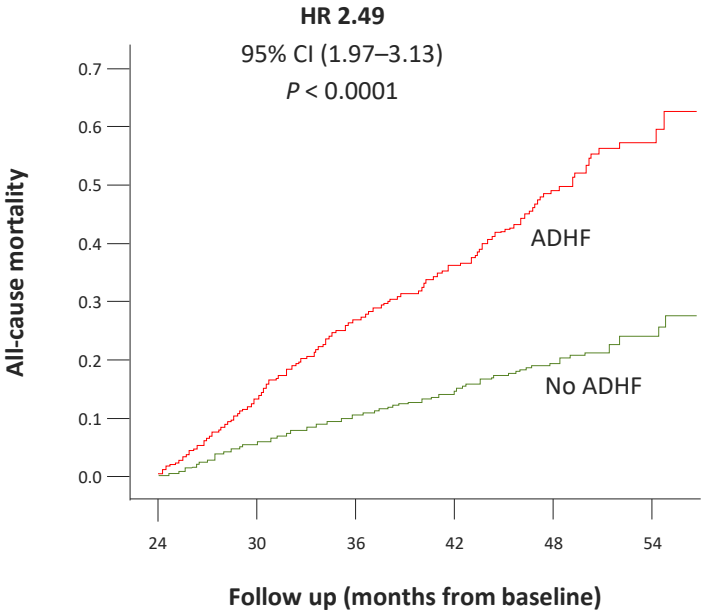
45%
rehospitalización

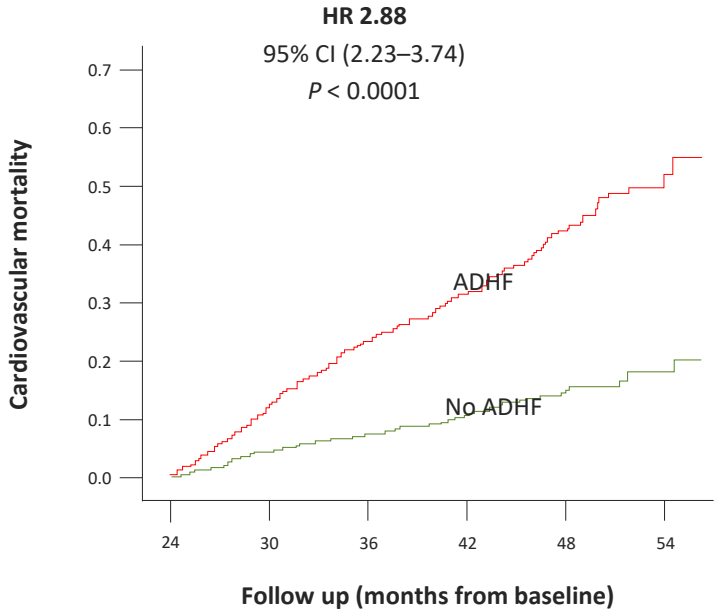


Evolución natural de la IC



Riesgo de mortalidad en función de hospitalización por IC





J Card Fail. 2008;14(3):211-8.

Goals	Phases	Procedures
• Determine aetiology • Alleviate symptoms • Improve congestion and organ perfusion • Restore oxygenation • Limit organ damage (cardiac, renal, hepatic, gut) • Prevent thromboembolism	**Immediate** **Primeros 60-120 min.**	• Close monitoring of vital signs and grading severity of symptoms/signs • Disposition decisions: ICU/ICCU ward • Initial treatment to support circulatory and respiratory functions (vasodilators, vasopressors, inotropes, diuretics, supplemental O_2)
• Determine aetiology • Improve signs and symptoms • Limit organ damage • Prevent thromboembolism	**Intermediate**	• Identify aetiology and relevant co-morbidities and start targeted treatment • Titrate therapy to control symptoms and to relieve congestion, manage hypoperfusion and optimize blood pressure • Initiate and up-titrate disease-modifying pharmacological therapy • Consider device therapy in appropriate patients
• Improve symptoms and quality of life • Achieve full congestion relief • Prevent early readmission • Improve survival	**Pre-discharge and long-term**	• Initiate and up-titrate disease-modifying pharmacological and device therapy • Develop a care plan with the identification of caregivers, a schedule for up-titration and monitoring of pharmacological therapy, review of device therapy • Enrolment in a disease management programme

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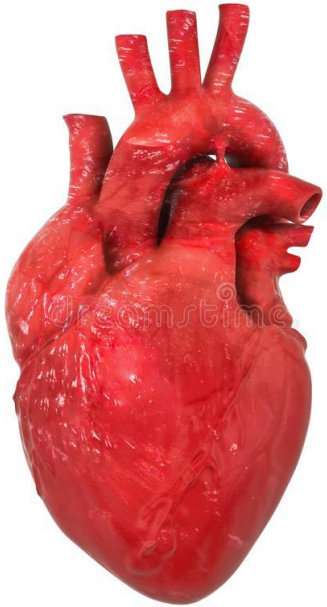
C	**C**hronic **C**oronary syndrome
H	**H**ypertension emergency
A	**A**rrhythmia
M	**M**echanical cause[a]
P	**P**ulmonary embolism
I	**I**nfections
T	**T**amponade

Acute decompensated heart failure

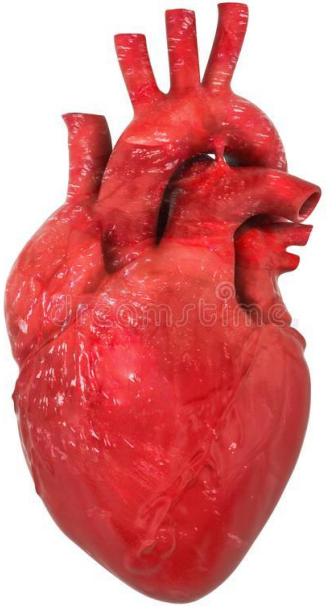


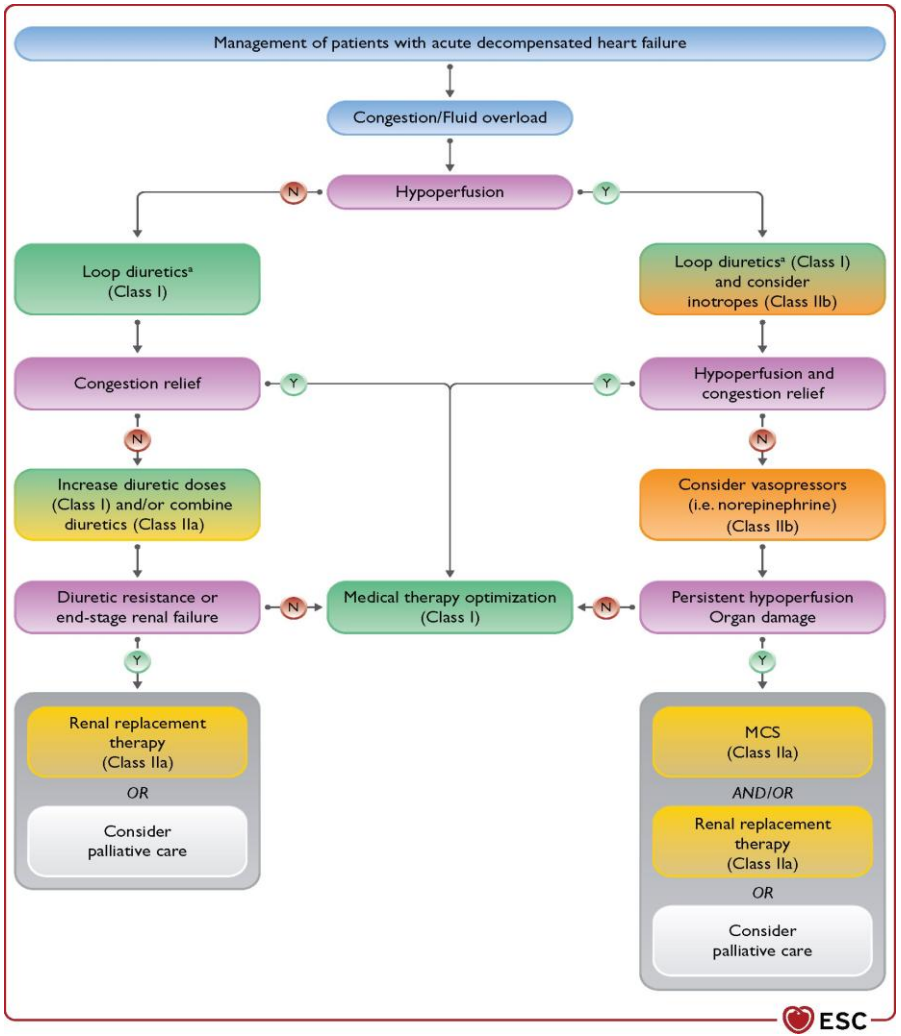
Acute pulmonary oedema

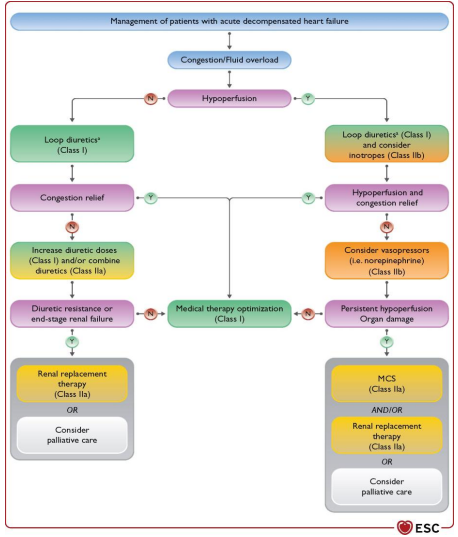
Isolated right ventricular failure

Cardiogenic shock

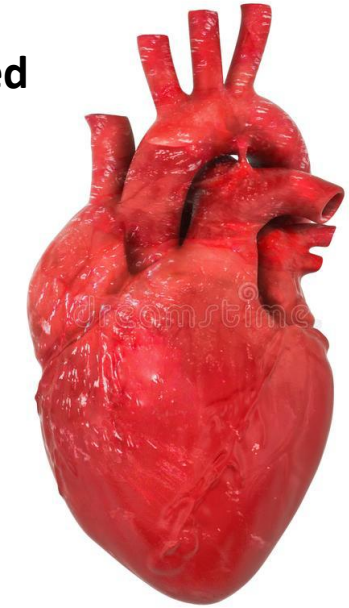
Acute decompensated heart failure



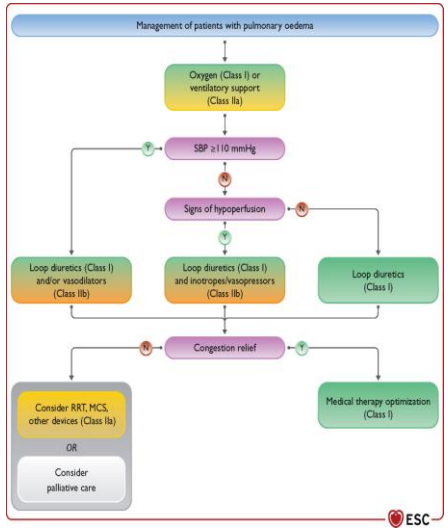


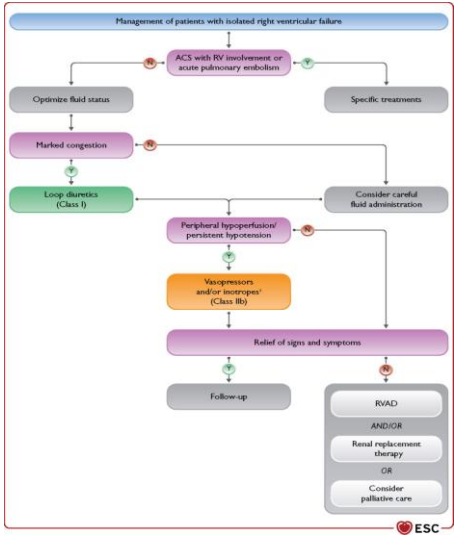


Acute decompensated heart failure



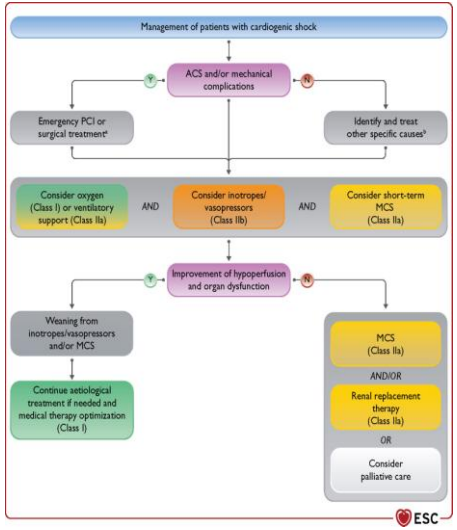
Acute pulmonary oedema

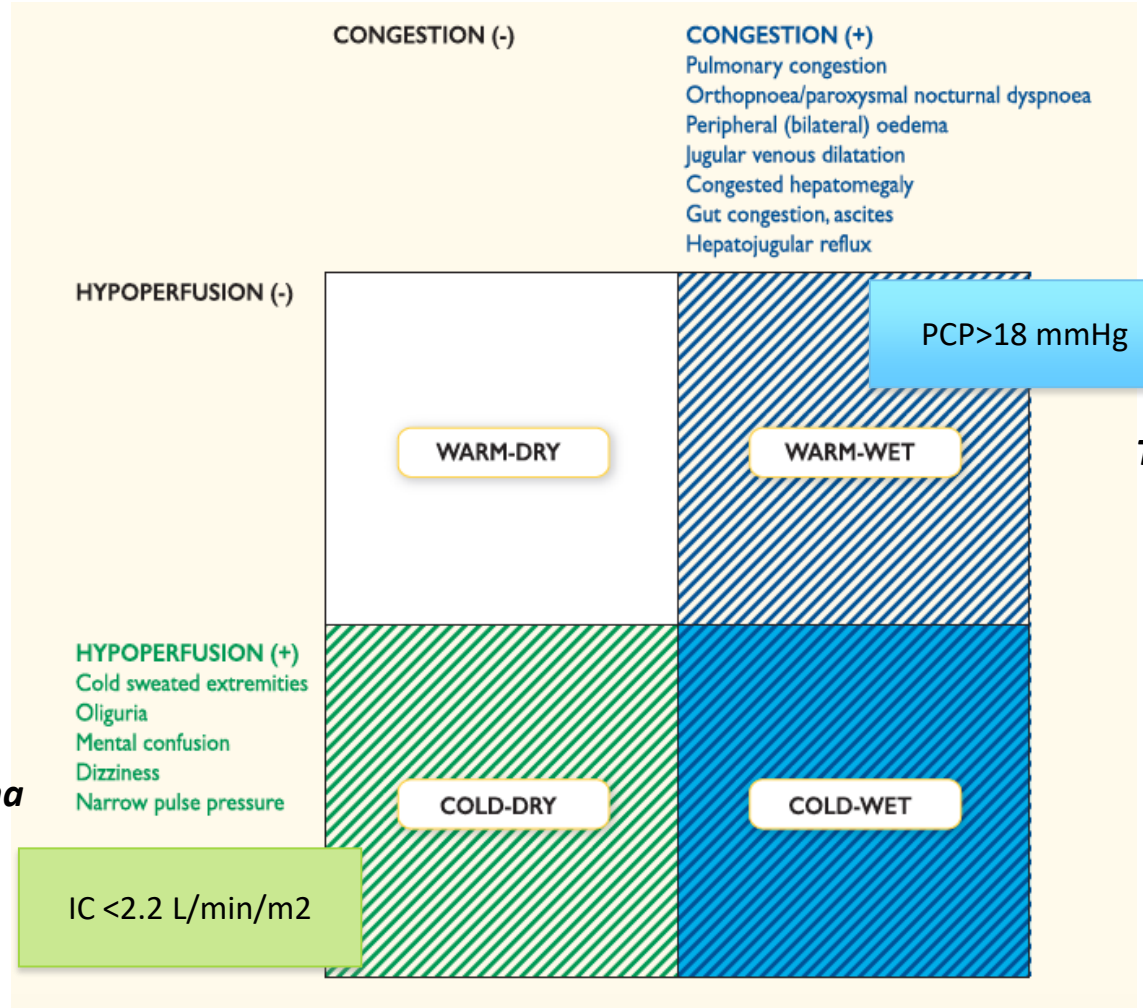




Isolated right ventricular failure

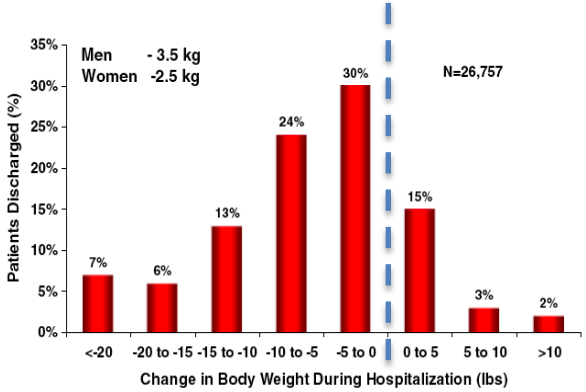
Cardiogenic shock



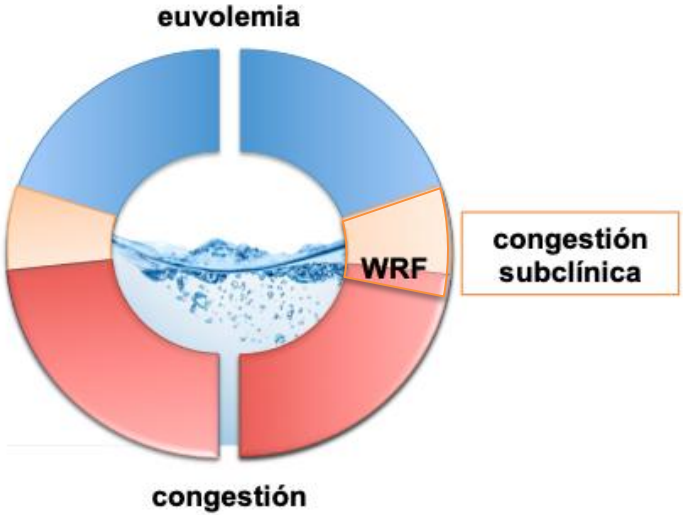


Tratamiento diurético intensivo

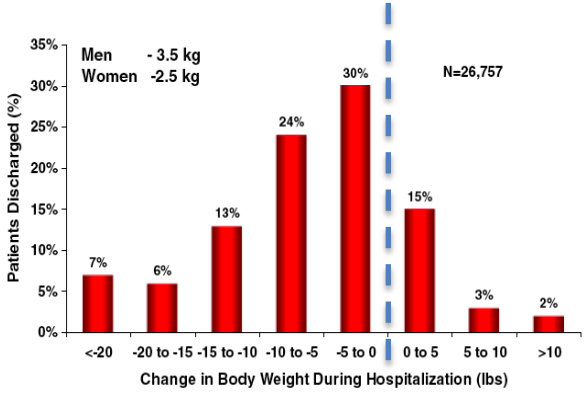
Soporte con inotropos Levosimendan>dobutamina



El paciente debe irse de alta completamente descongestionado



Heart Fail Rev (2007) 12:125–130



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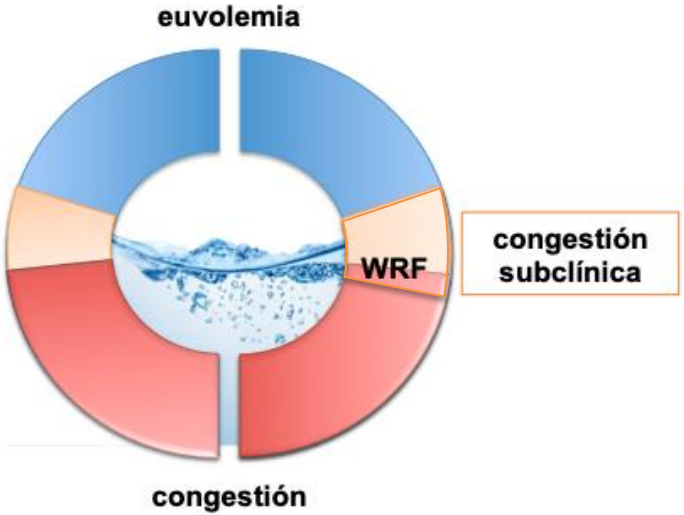
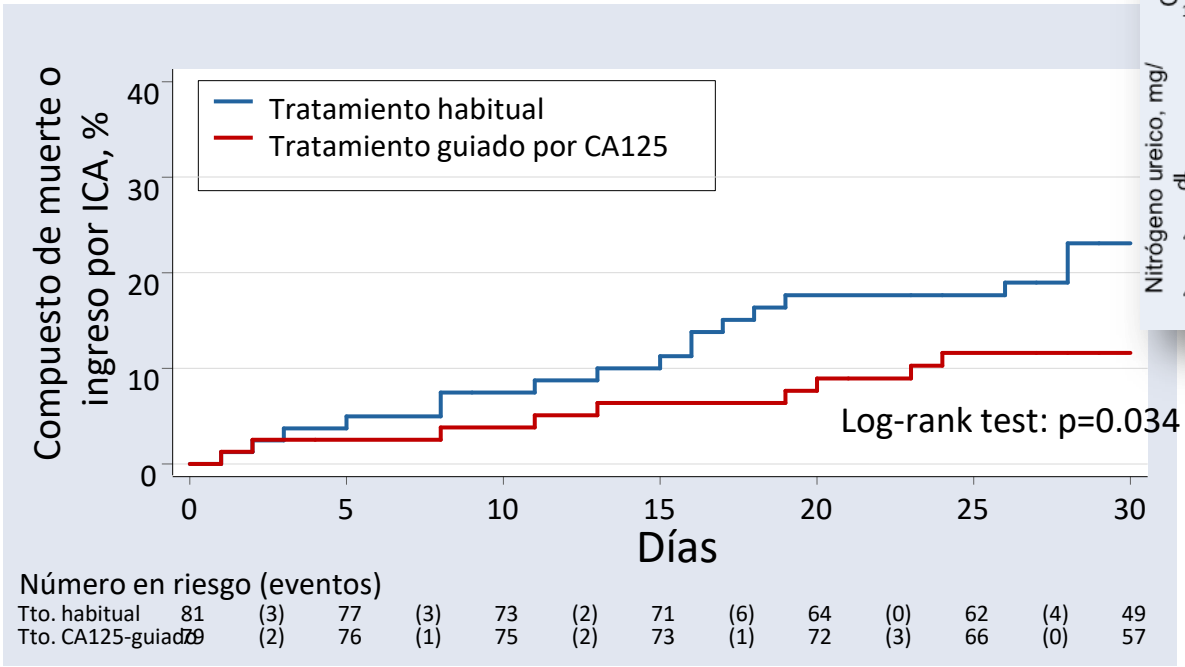


POCUS: Point Of Care Ultrasound

Current Guidelines:

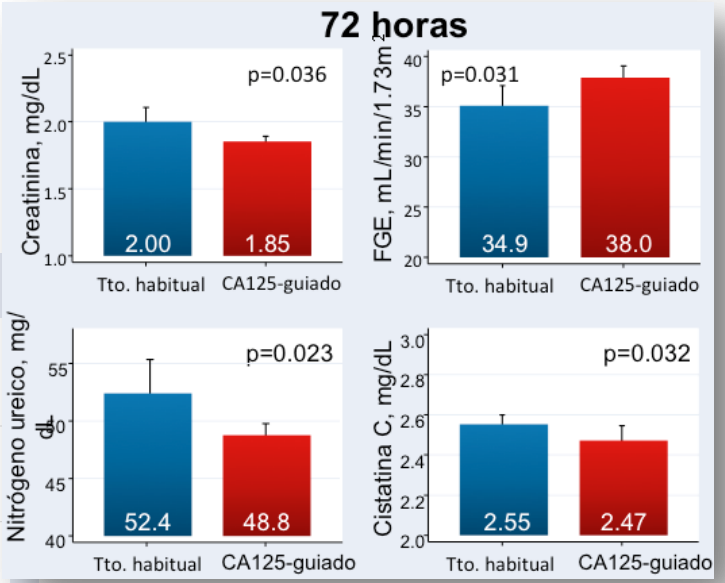
- ***LUS (Lung Ultrasound): admission/during hospit.***
- ***NT-BNP: admission/pre-discharge***

Tratamiento diurético guiado por CA125 en pacientes con IC y disfunción renal (IMPROVE-HF)



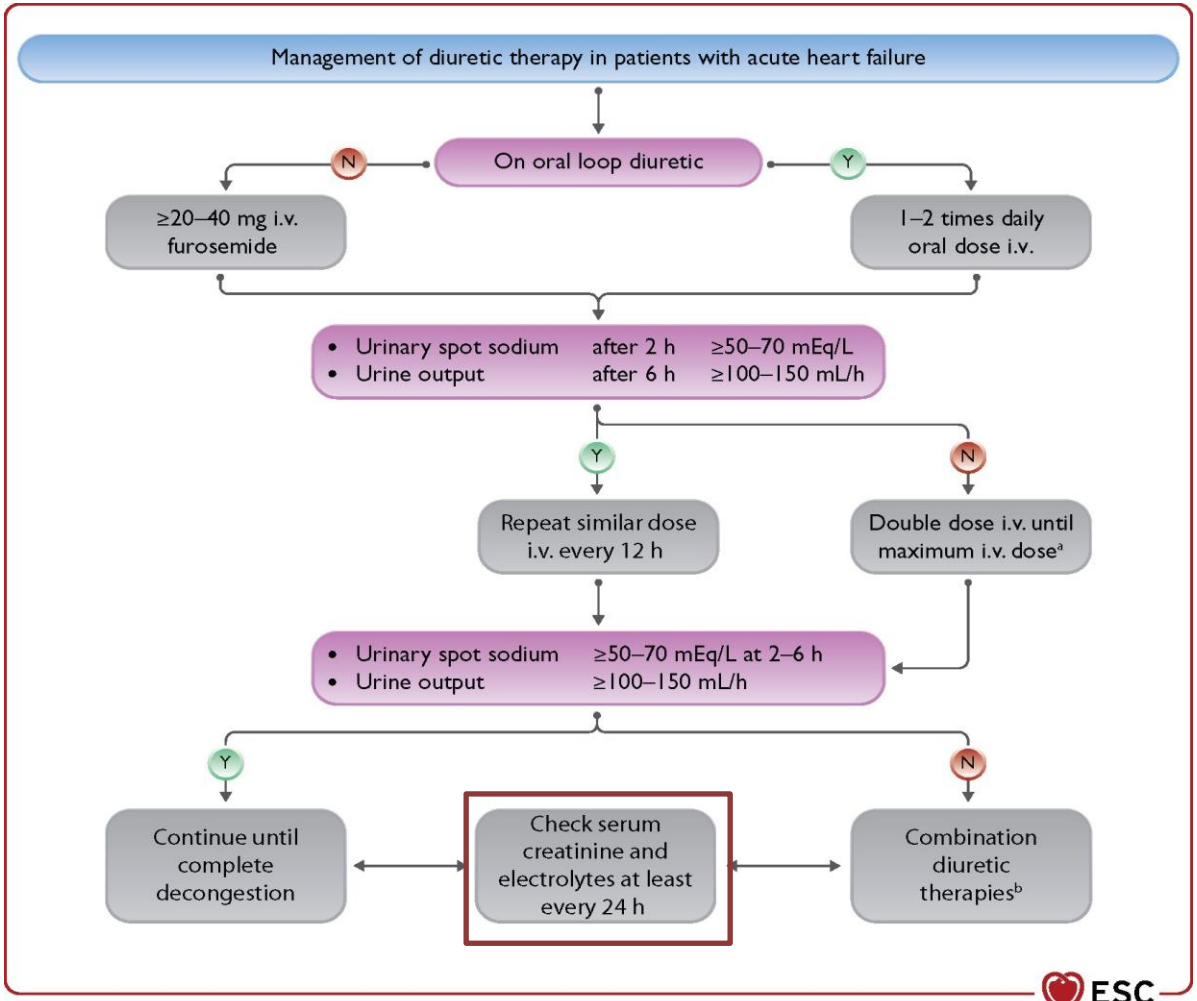
Número en riesgo (eventos)

Tto. habitual	81	(3)	77	(3)	73	(2)	71	(6)	64	(0)	62	(4)	49
Tto. CA125-guiado	79	(2)	76	(1)	75	(2)	73	(1)	72	(3)	66	(0)	57



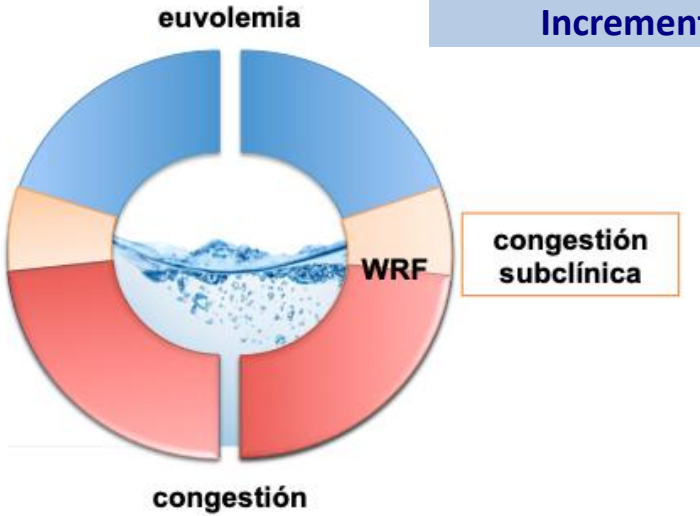
Rev Esp Cardiol 2017;70:1067-1073


0
5
10
15
20
25
30
35
40
45
50
55
TIME TIMER


Management of diuretic therapy in patients with acute heart failure
On oral loop diuretic
N
Y
≥20–40 mg i.v. furosemide
1–2 times daily oral dose i.v.
• Urinary spot sodium after 2 h ≥50–70 mEq/L
• Urine output after 6 h ≥100–150 mL/h
Y
N
Repeat similar dose i.v. every 12 h
Double dose i.v. until maximum i.v. dose[a]
• Urinary spot sodium ≥50–70 mEq/L at 2–6 h
• Urine output ≥100–150 mL/h
Y
N
Continue until complete decongestion
Check serum creatinine and electrolytes at least every 24 h
Combination diuretic therapies[b]
ESC

Worsening Renal Function

Creatinina ≥ 1.5 valor basal
Incremento creat. ≥ 0.3 mg/dl



La congestión es el principal factor que condiciona el WRF

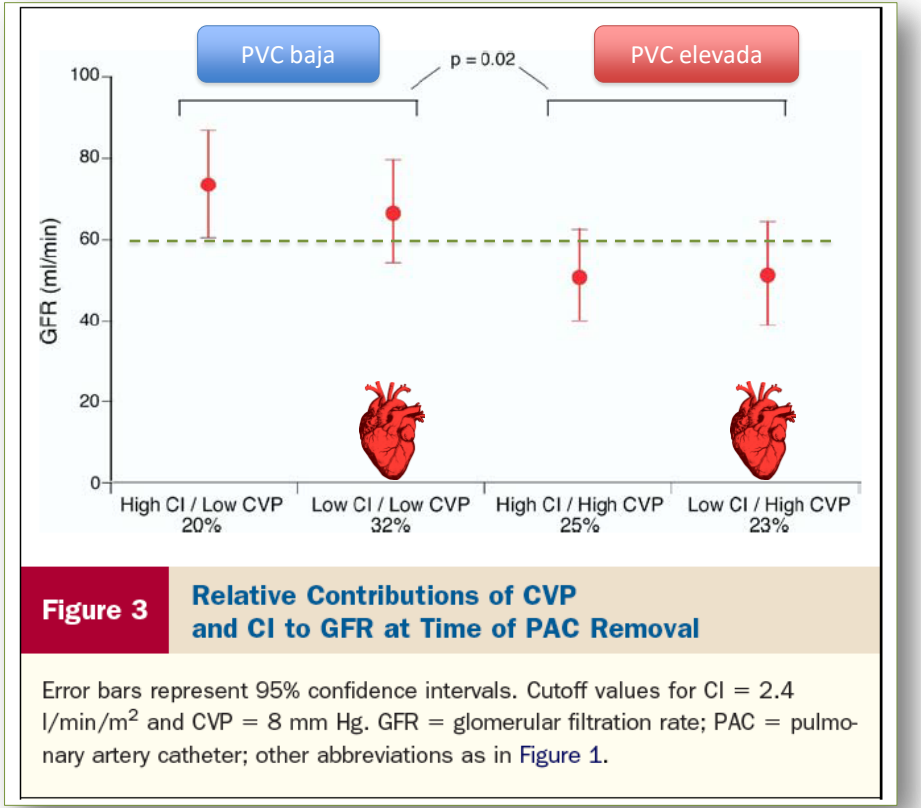


Figure 3 **Relative Contributions of CVP and CI to GFR at Time of PAC Removal**

Error bars represent 95% confidence intervals. Cutoff values for CI = 2.4 l/min/m^2 and CVP = 8 mm Hg. GFR = glomerular filtration rate; PAC = pulmonary artery catheter; other abbreviations as in Figure 1.

J Am Coll Cardiol 2009;53:589–96

Potential Effects of Aggressive Decongestion during the Treatment of Decompensated Heart Failure on Renal Function and Survival

Hemoconcentración

Mayores dosis diuréticos
Mayor pérdida de peso
Mayor reducción de PVC

Mayor probabilidad de WRF
OR 5,3 p<0.001

Menor mortalidad a los 180 días
HR 0.31, p=0.013

Circulation 2010; 122: 265–272.

ORIGINAL ARTICLE

Prognostic Significance of Creatinine Increases During an Acute Heart Failure Admission in Patients With and Without Residual Congestion

A Post Hoc Analysis of the PROTECT Data

WRF solo se asoció a peor pronóstico en los pacientes con congestión persistente

Congestion score

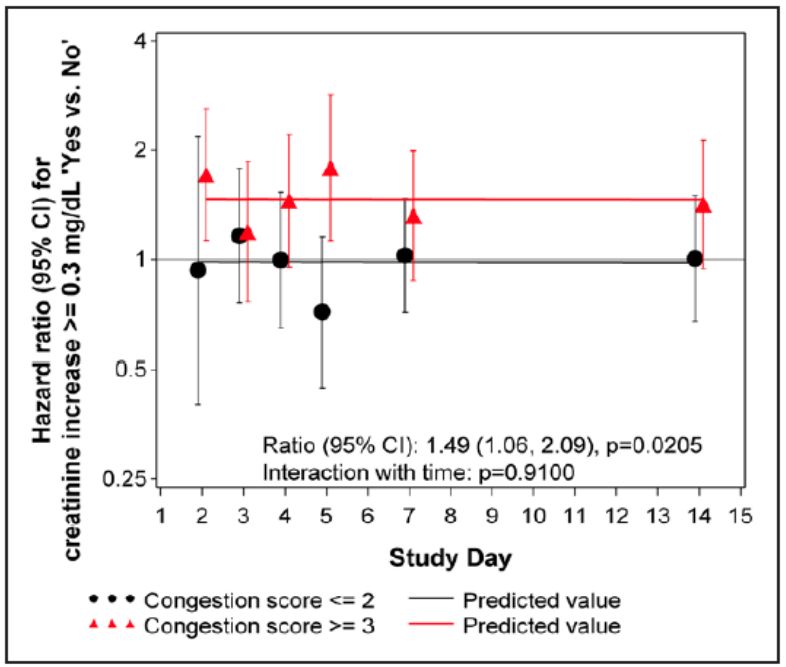
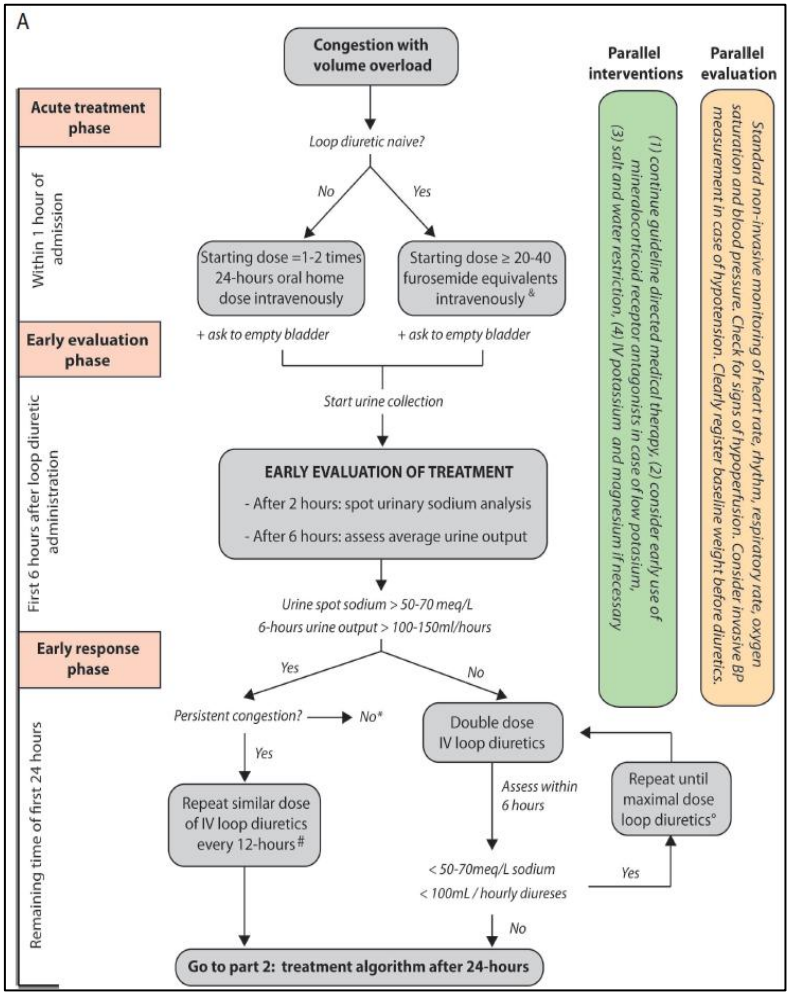
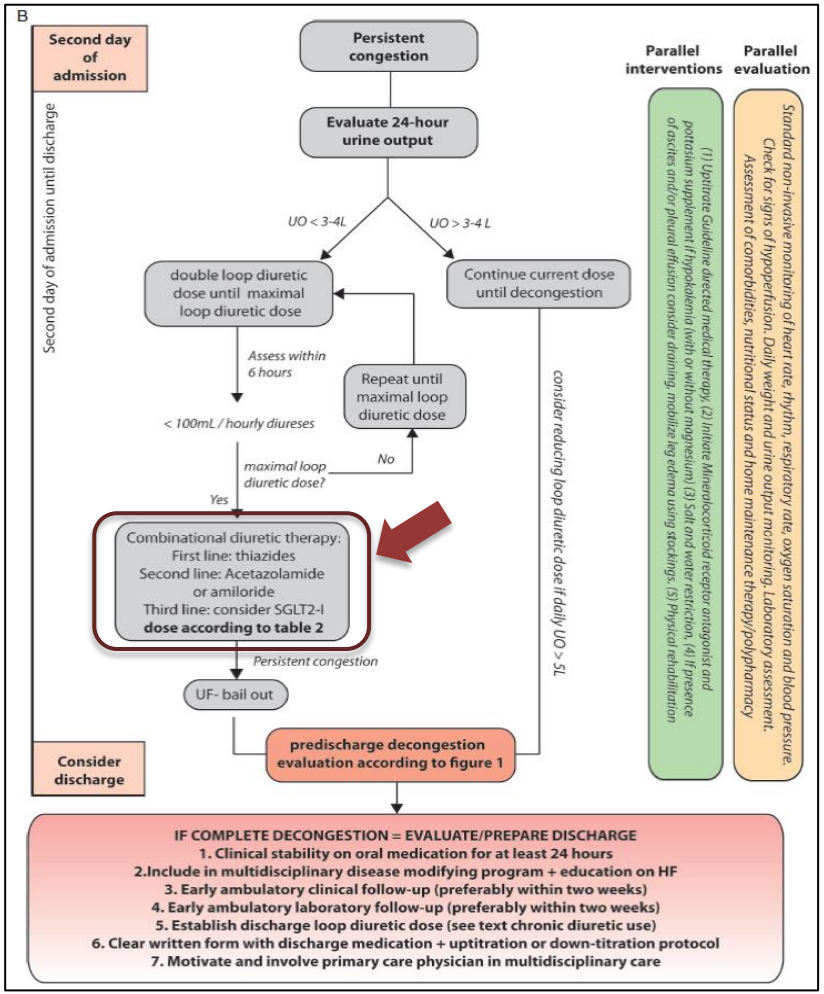


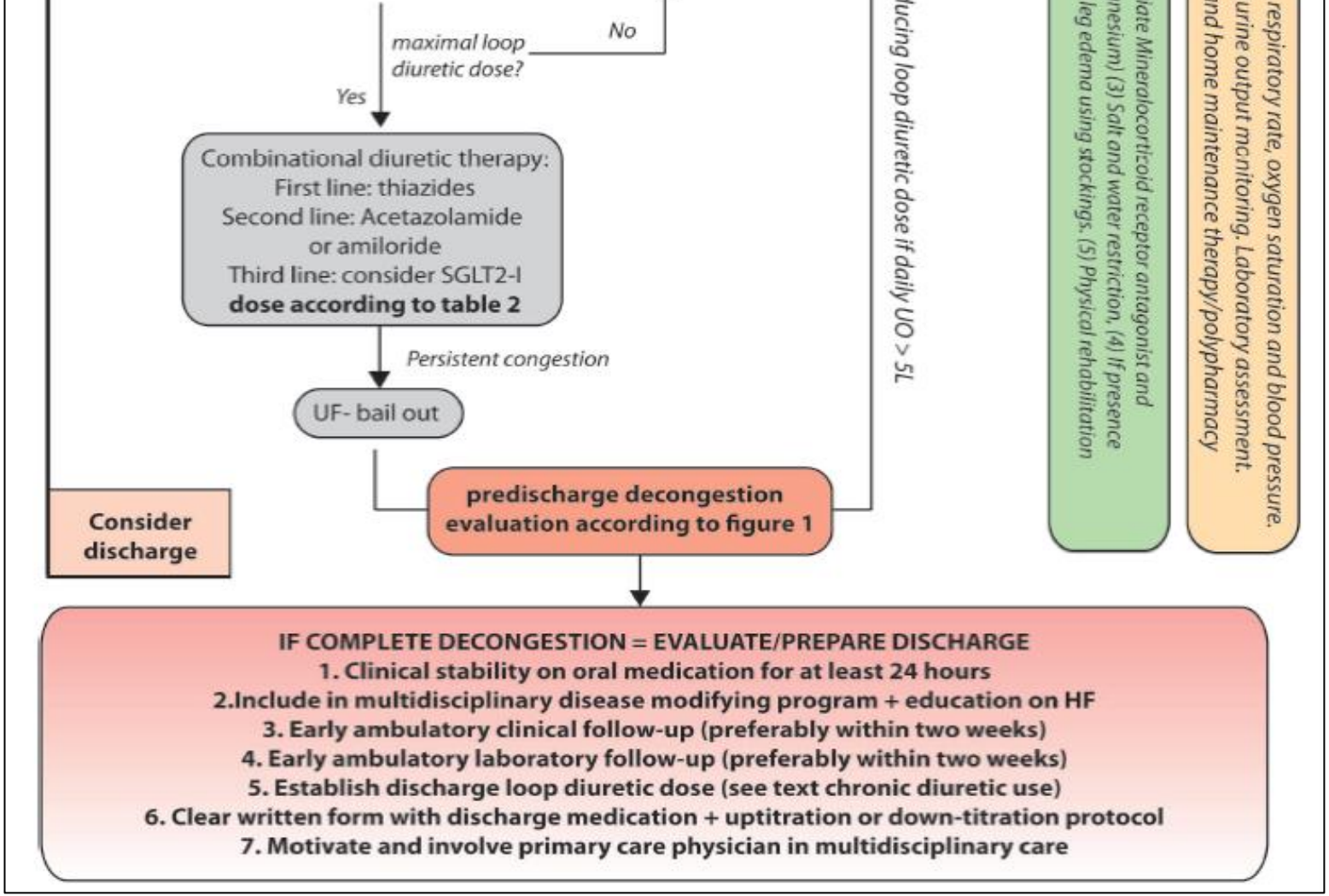
Figure 1. Adjusted associations of creatinine increase from baseline with all-cause death or cardiovascular/ renal rehospitalization through 30 d after day x by congestion score.

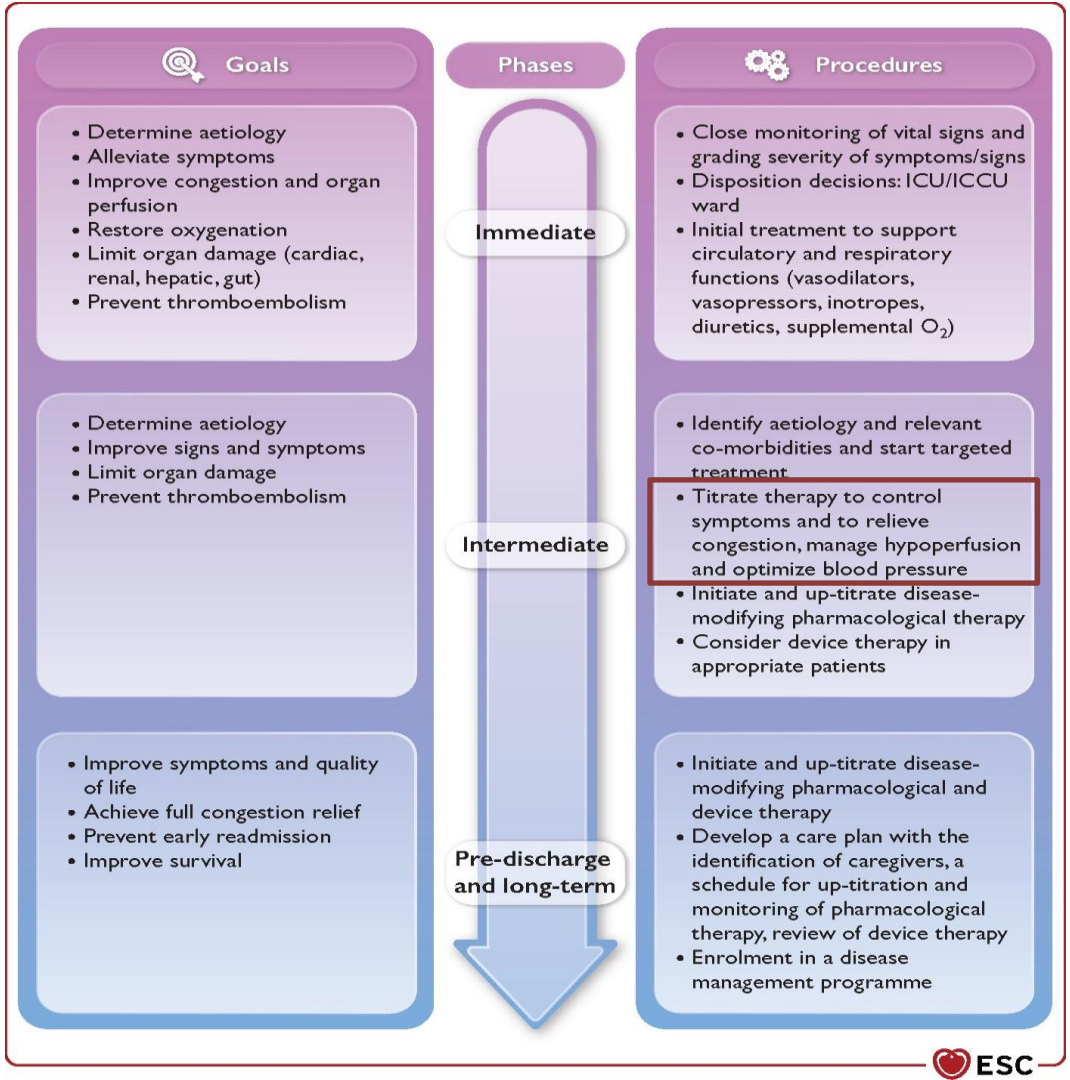
Circ Heart Fail. 2018;11:e004644.





Eur J Heart Fail. 2019;21(2):137–155

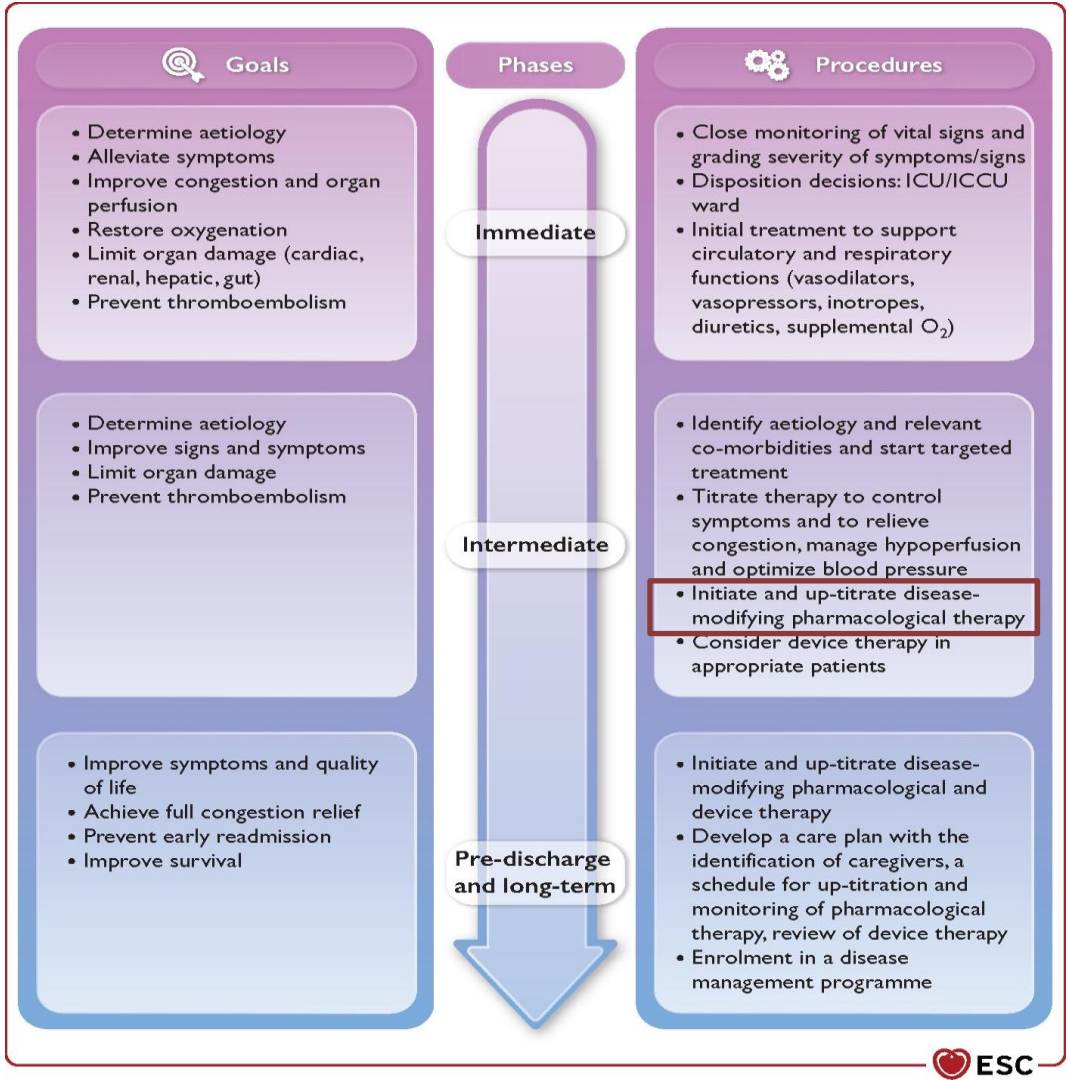

maximal loop diuretic dose?
No
Yes
Combinational diuretic therapy:
First line: thiazides
Second line: Acetazolamide or amiloride
Third line: consider SGLT2-I
dose according to table 2
Persistent congestion
UF- bail out
predischarge decongestion evaluation according to figure 1
Consider discharge
IF COMPLETE DECONGESTION = EVALUATE/PREPARE DISCHARGE
1. Clinical stability on oral medication for at least 24 hours
2.Include in multidisciplinary disease modifying program + education on HF
3. Early ambulatory clinical follow-up (preferably within two weeks)
4. Early ambulatory laboratory follow-up (preferably within two weeks)
5. Establish discharge loop diuretic dose (see text chronic diuretic use)
6. Clear written form with discharge medication + uptitration or down-titration protocol
7. Motivate and involve primary care physician in multidisciplinary care
reducing loop diuretic dose if daily UO > 5L
respiratory rate, oxygen saturation and blood pressure.
urine output monitoring. Laboratory assessment.
nd home maintenance therapy/polypharmacy
iate Mineralocortizoid receptor antagonist and
nesium) (3) Salt and water restriction, (4) If presence
leg edema using stockings. (5) Physical rehabilitation



-Descongestionar de forma "agresiva"

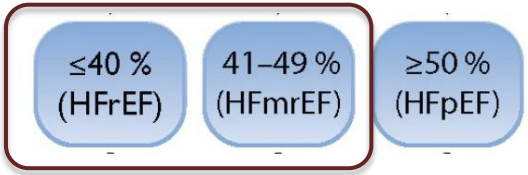
-Soporte específico (inotropos/vasodilatadores)

-No retirada de fármacos modificadores de la enfermedad



-Tratar las comorbilidades

-Titulación/Introducción de fármacos modificadores de la enfermedad



Management of HFrEF

To reduce mortality - for all patients

ACE-I/ARNI | BB | MRA | SGLT2i

To reduce HF hospitalization/mortality - for selected patients

Volume overload

Diuretics

SR with LBBB ≥ 150 ms

CRT-P/D

SR with LBBB 130–149 ms or non LBBB≥ 150 ms

CRT-P/D

Ischaemic aetiology

ICD

Non-ischaemic aetiology

ICD

Atrial fibrillation

Anticoagulation

Atrial fibrillation

Digoxin | PVI

Coronary artery disease

CABG

Iron deficiency

Ferric carboxymaltose

Aortic stenosis

SAVR/TAVI

Mitral regurgitation

TEE MV Repair

Heart rate SR>70 bpm

Ivabradine

Black Race

Hydralazine/ISDN

ACE-I/ARNI intolerance

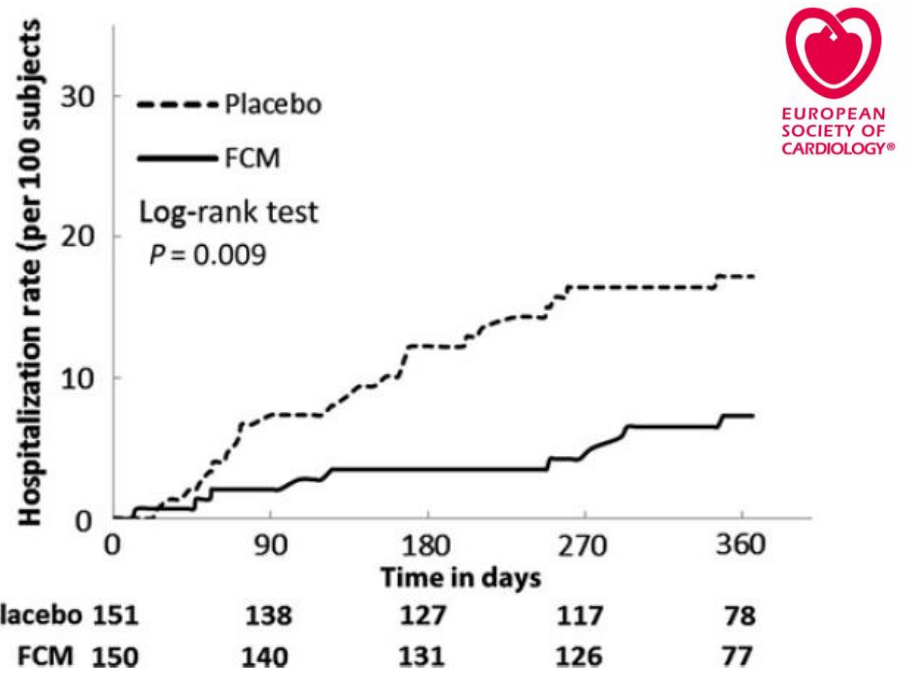
ARB

2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure

Recommendations for the management of anaemia and iron deficiency in patients with heart failure

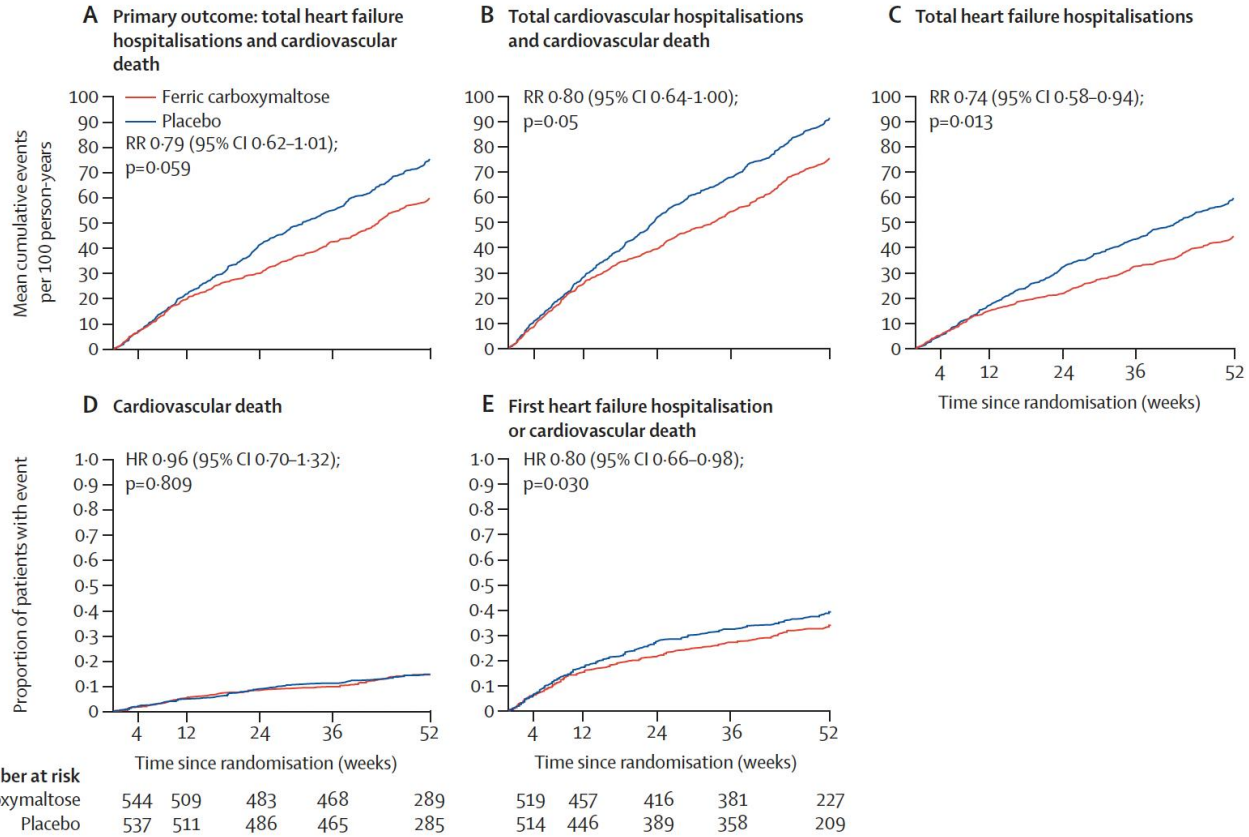
Recommendations	Class[a]	Level[b]
It is recommended that all patients with HF be periodically screened for anaemia and iron deficiency with a full blood count, serum ferritin concentration, and TSAT.	I	C
Intravenous iron supplementation with ferric carboxymaltose should be considered in symptomatic patients with LVEF <45% and iron deficiency, defined as serum ferritin <100 ng/mL or serum ferritin 100–299 ng/mL with TSAT <20%, to alleviate HF symptoms, improve exercise capacity and QOL.[720,722,724]	IIa	A
Intravenous iron supplementation with ferric carboxymaltose should be considered in symptomatic HF patients recently hospitalized for HF and with LVEF <50% and iron deficiency, defined as serum ferritin <100 ng/mL or serum ferritin 100–299 ng/mL with TSAT <20%, to reduce the risk of HF hospitalization.[512]	IIa	B

Eur Heart J (2021) 00, 1128



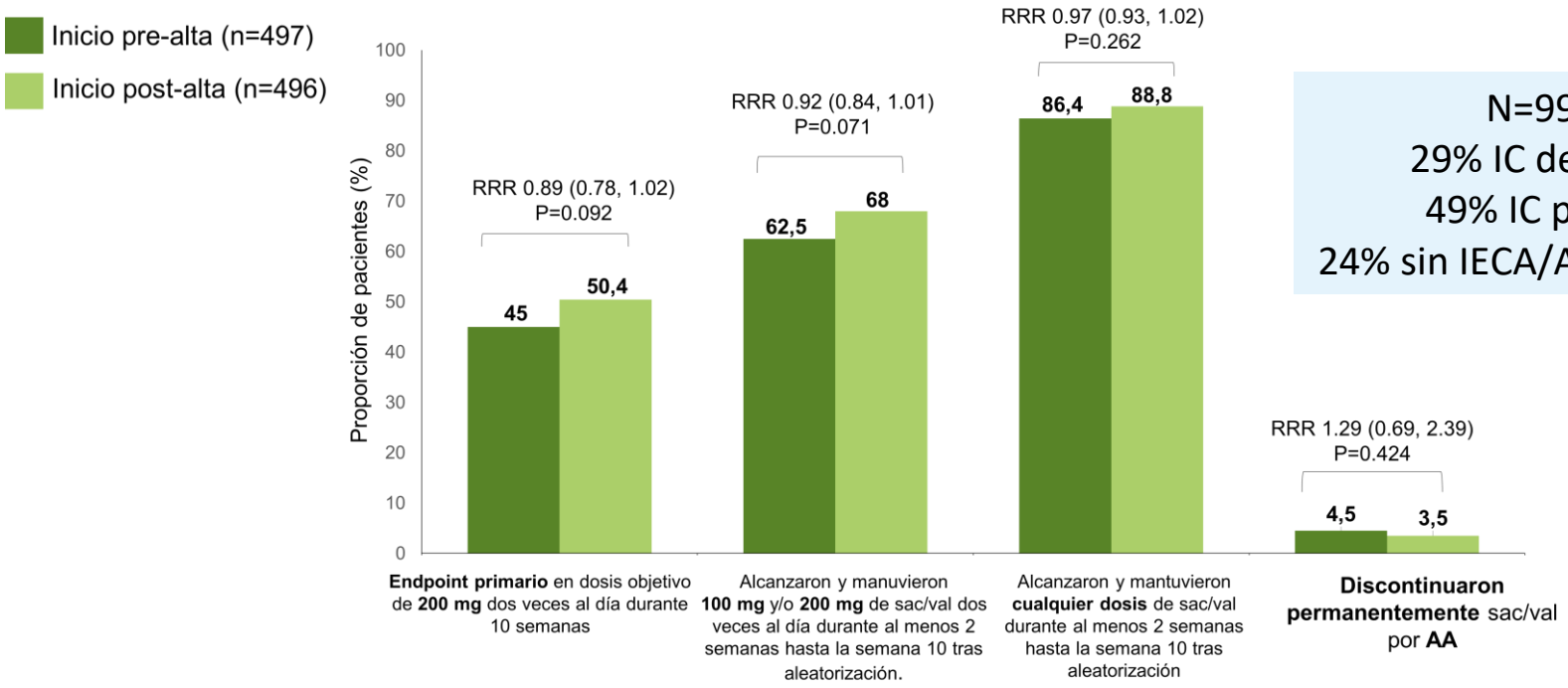
Eur Heart J. 2015 ;36:657-68

Ferric carboxymaltose for iron deficiency at discharge after acute heart failure: a multicentre, double-blind, randomised, controlled trial



Lancet. 2020;396(10266):1895-1904.

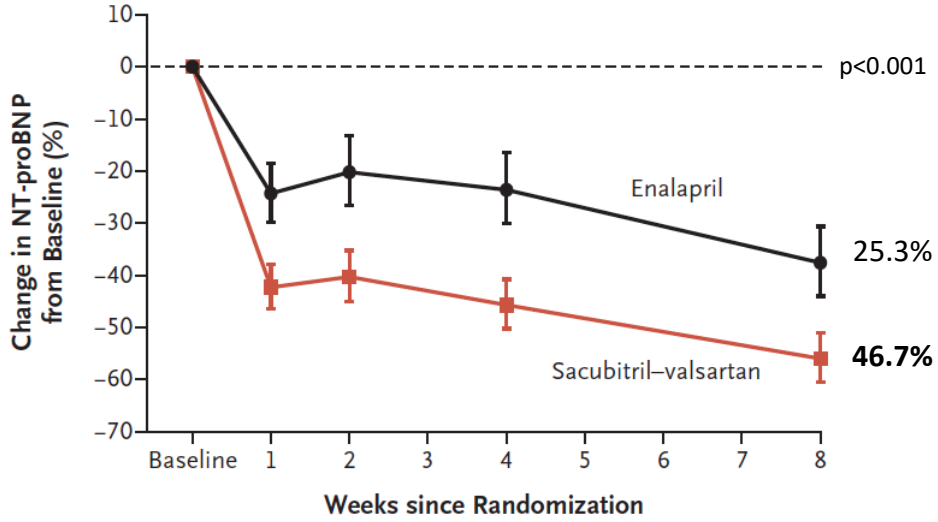
Rationale and design of TRANSITION: a randomized trial of pre-discharge vs. post-discharge initiation of sacubitril/valsartan



N=993
29% IC de novo
49% IC previa
24% sin IECA/ARAII previo

ESC Heart Failure 2018; 5: 327–336

PIONEER-HF



No. at Risk

Enalapril	394	359	351	350	348
Sacubitril–valsartan	397	355	363	365	349

No diferencias en la proporción de efectos adversos entre los dos tratamientos

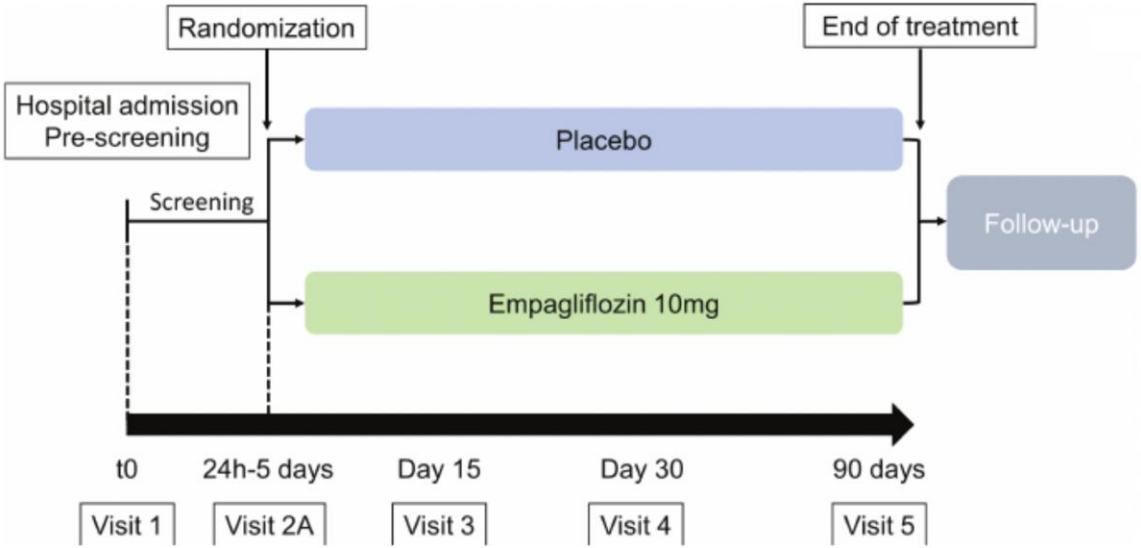
N Engl J Med. 2019 ;380(6):539-548.

Sodium–glucose co-transporter 2 inhibition in patients hospitalized for acute decompensated heart failure: rationale for and design of the EMPULSE trial

AHA Scientific Sessions 2021
November 13–15, 2021

NOV 14

N=500
End point combinado:
Muerte
Eventos por IC
Tiempo al 1er evento
Calidad de vida

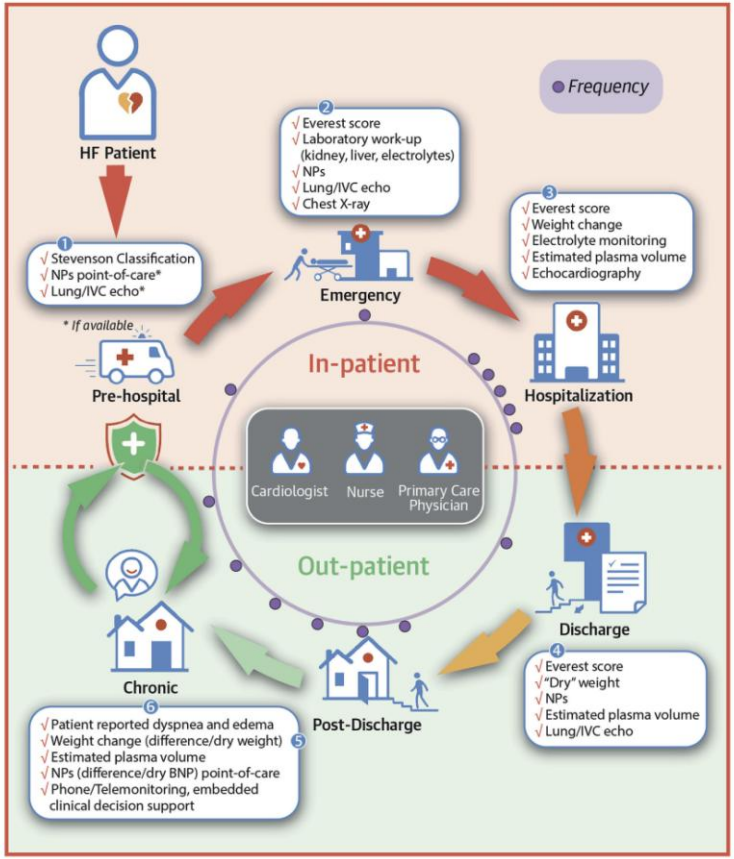


Eur Heart J. 2021 ;23:826-834

Goals	Phases	Procedures
• Determine aetiology • Alleviate symptoms • Improve congestion and organ perfusion • Restore oxygenation • Limit organ damage (cardiac, renal, hepatic, gut) • Prevent thromboembolism	**Immediate**	• Close monitoring of vital signs and grading severity of symptoms/signs • Disposition decisions: ICU/ICCU ward • Initial treatment to support circulatory and respiratory functions (vasodilators, vasopressors, inotropes, diuretics, supplemental O_2)
• Determine aetiology • Improve signs and symptoms • Limit organ damage • Prevent thromboembolism	**Intermediate**	• Identify aetiology and relevant co-morbidities and start targeted treatment • Titrate therapy to control symptoms and to relieve congestion, manage hypoperfusion and optimize blood pressure • Initiate and up-titrate disease-modifying pharmacological therapy • Consider device therapy in appropriate patients
• Improve symptoms and quality of life • Achieve full congestion relief • Prevent early readmission • Improve survival	**Pre-discharge and long-term**	• Initiate and up-titrate disease-modifying pharmacological and device therapy • Develop a care plan with the identification of caregivers, a schedule for up-titration and monitoring of pharmacological therapy, review of device therapy • Enrolment in a disease management programme

ESC

CENTRAL ILLUSTRATION: Congestion Assessment in HF Patient Journey



Girerd, N. et al. J Am Coll Cardiol HF. 2018;6(4):273-85.

PACIENTE HOSPITALIZADO POR IC

CONSIDERACIONES ANTES DEL ALTA

1. ¿Se han identificado y controlado los factores precipitantes?
2. ¿Se han evaluado las comorbilidades?
3. ¿Está el paciente descongestionado?[a]
4. ¿Se conoce la FEVI?
5. Si la FEVI es <40%, ¿está el paciente optimizado con
   - ✓ Sacubitrilo/valsartán, IECA o ARA II
   - ✓ BB y
   - ✓ ARM?
6. ¿Se ha revisado el resto de medicación?
7. ¿Se han valorado la función renal y los iones?
8. ¿Se conoce la PAS, el ritmo, la FC, y la duración del QRS?[c]
9. ¿Se ha educado sobre la enfermedad al paciente/cuidador y se han proporcionado recomendaciones?[d]
10. ¿El paciente tiene programada una cita precoz en atención primaria y/o especializada?[e]

Descongestionar ***Titular modificadores de enfermedad*** ***Planificar Seguimiento***

Disminución de reingresos a los 30 días (periodo vulnerable)