

3er Curs D'ACTUALITZACIÓ EN INSUFICIÈNCIA CARDÍACA

EN EL PACIENT CRÒNIC QUE PERSISTEIX SIMPTOMÀTIC

Eduard Solé González

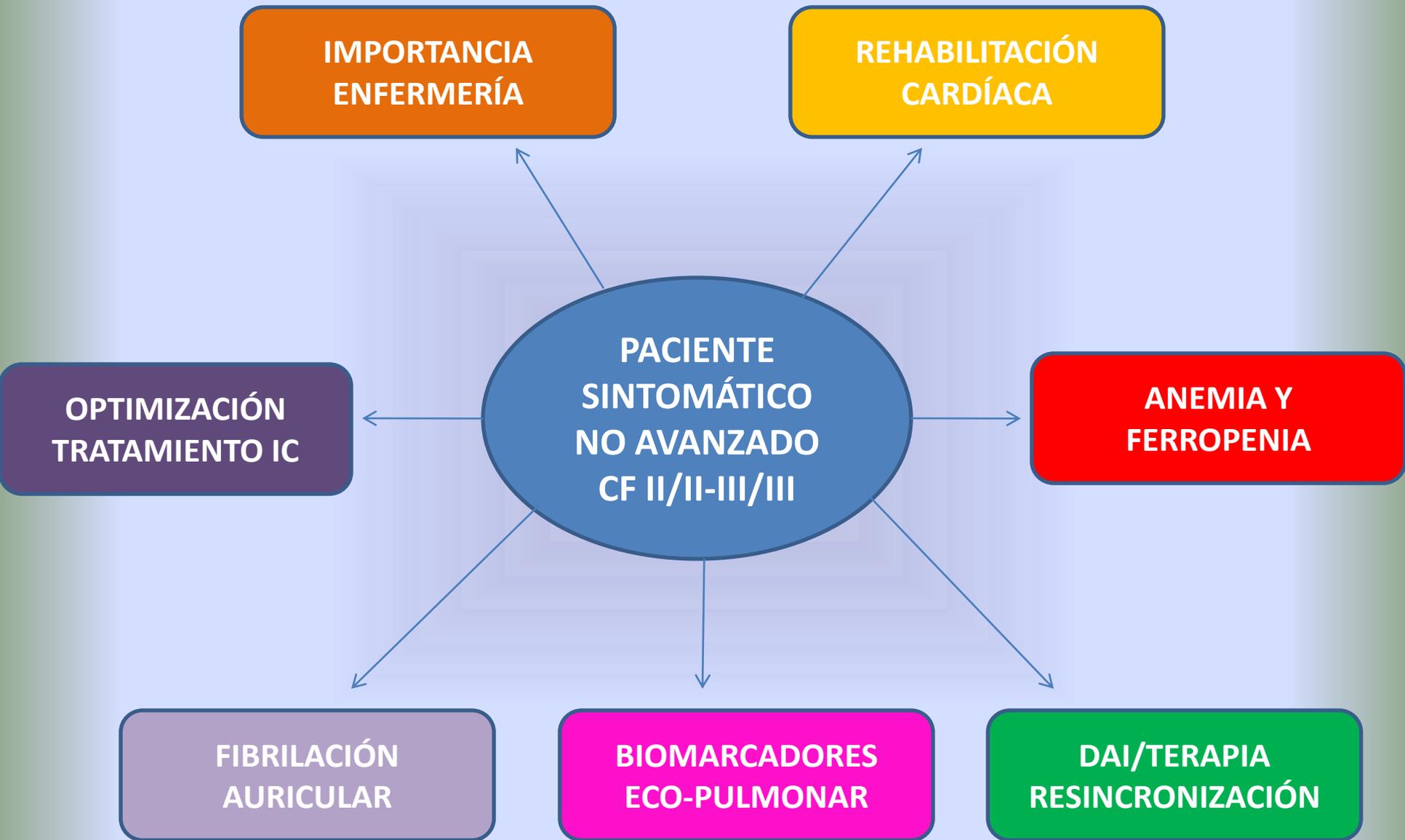
Unitat d'Insuficiència Cardíaca i Trasplantament

Hospital Clínic i Provincial de Barcelona

12 de Novembre de 2021.



Amb la col.laboració de:
 **NOVARTIS**



ENFERMERÍA. HOME-MONITORING

Prevention and monitoring

Self-management strategies are recommended to reduce the risk of HF hospitalization and mortality.

I

Either home-based and/or clinic-based programmes improve outcomes and are recommended to reduce the risk of HF hospitalization and mortality.

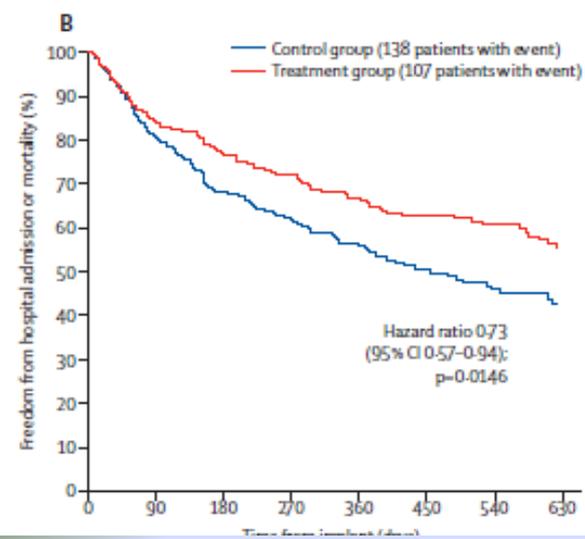
I

Non-invasive HTM may be considered for patients with HF in order to reduce the risk of recurrent CV and HF hospitalizations and CV death.

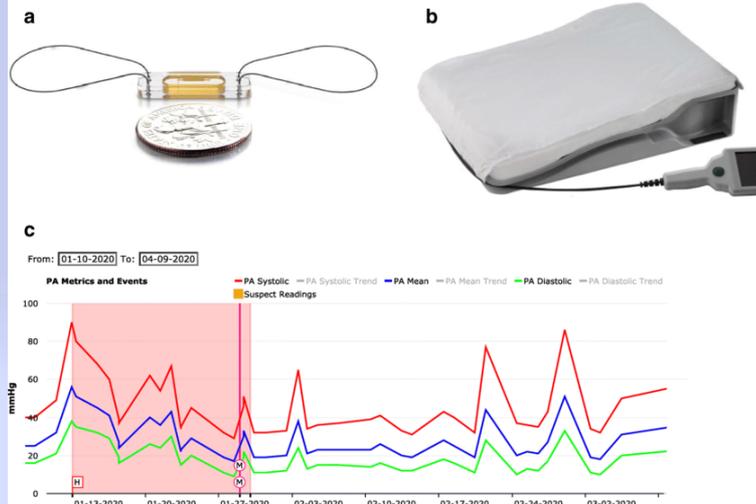
IIb

PAPEL ENFERMERÍA:

- Educación.
- Mejorar la autocura.
- Mejorar adherencia farmacológica.
- Detección precoz signos alarma.
- Confianza con el paciente.

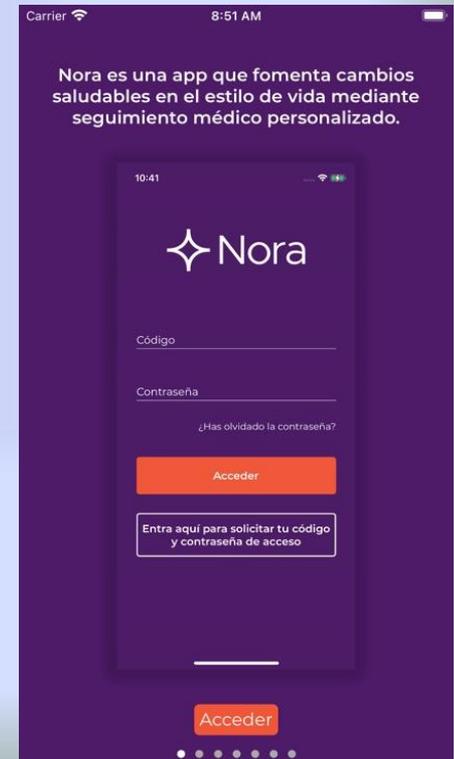


Lancet 2011; 377: 658–66



IIb

B

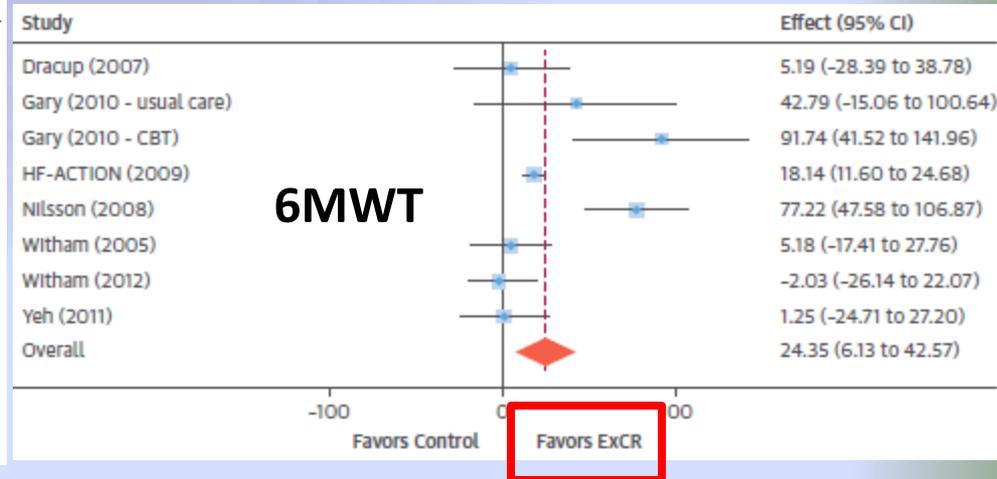
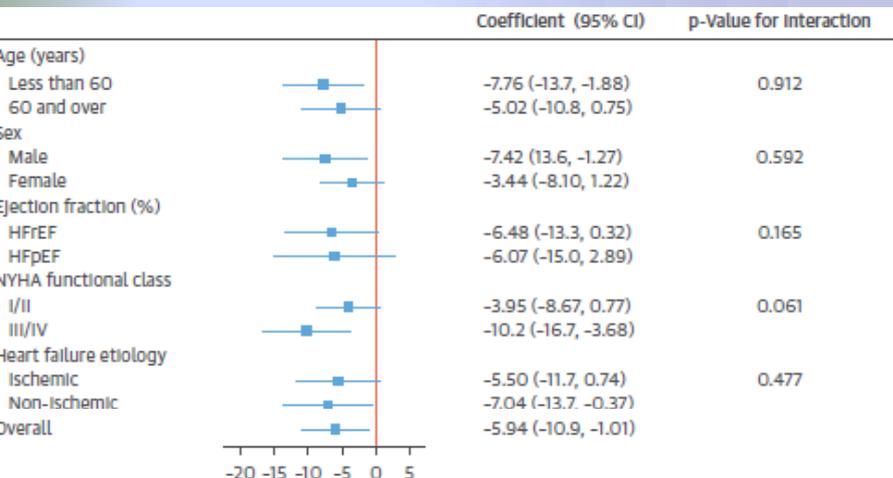
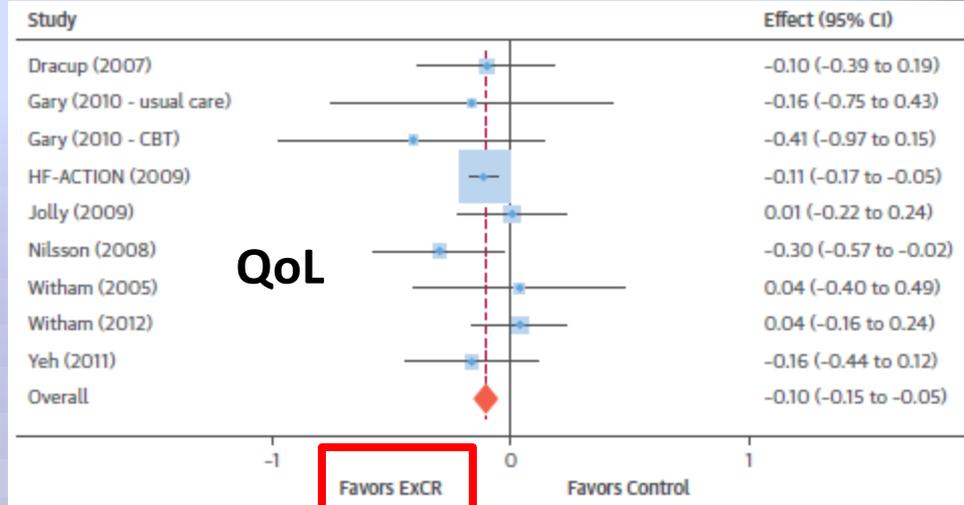


REHABILITACIÓN CARDÍACA

Recommendations for exercise rehabilitation in patients with chronic heart failure

Recommendations	Class ^a	Level ^b
Exercise is recommended for all patients who are able in order to improve exercise capacity, QOL, and reduce HF hospitalization. ^{c 324–328,335–337}	I	A
A supervised, exercise-based, cardiac rehabilitation programme should be considered in patients with more severe disease, frailty, or with comorbidities. ^{95,324–327,338}	IIa	C

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ANEMIA Y FERROPENIA

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

AFFIRM-AHF:

- Furo EV.
- FEVI <50%.
- Ferritina <100.
- Ferritina 100-299 con IST <20%.
- 1ª dosis ingresado / 2ª dosis 6 sem.

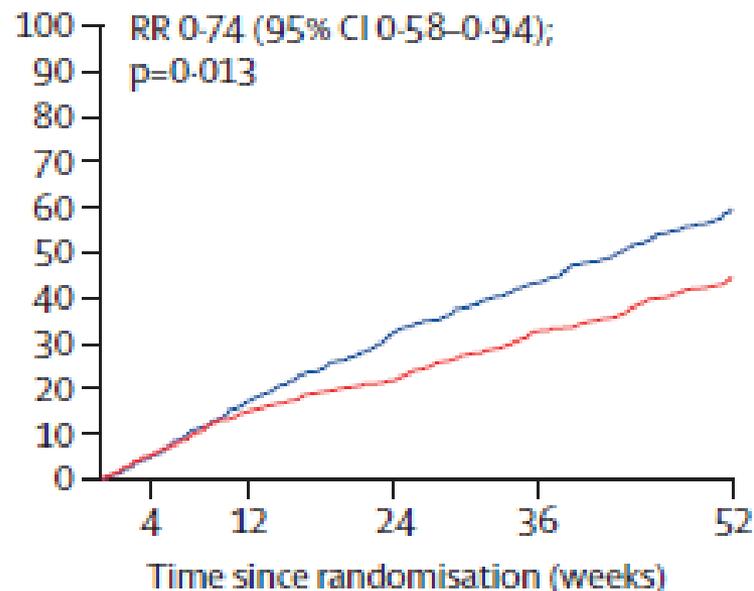
¡ESTUDIO FERROPENIA CADA 3-6 MESES!

Darbepoetin-alpha failed to reduce all-cause death or HF hospitalization and increased the risk of thromboembolic events in the only large-scale randomized trial in patients with HFrEF and mild to moderate anaemia.⁷¹⁹ As a result, erythropoietin stimulating agents are not indicated for the treatment of anaemia in HF.

Treatment of anaemia in HF with erythropoietin stimulating agents is not recommended in the absence of other indications for this therapy.

III

C Total heart failure hospitalisations



DESFIBRILADOR

2021

ETIOLOGÍA NO ISQUÉMICA

2016

An ICD should be considered to reduce the risk of sudden death and all-cause mortality in patients with symptomatic HF (NYHA class II–III) of a non-ischaemic aetiology, and an LVEF $\leq 35\%$ despite ≥ 3 months of OMT, provided they are expected to survive substantially longer than 1 year with good functional status.

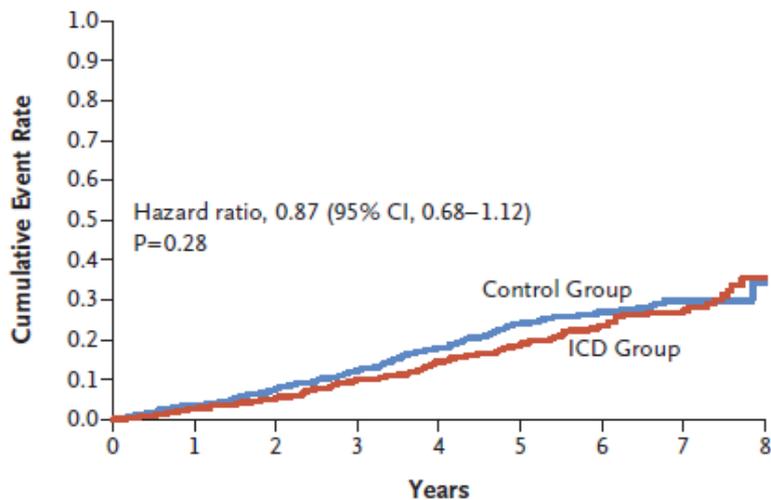
IIa

Primary prevention

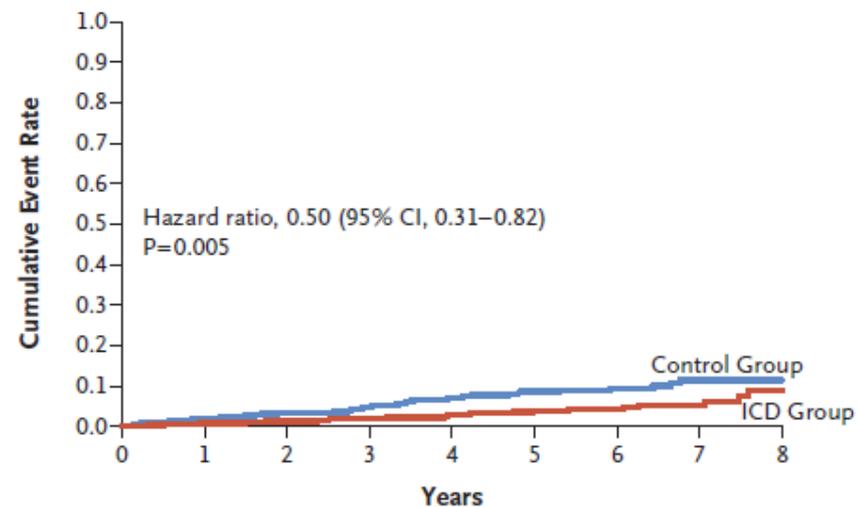
An ICD is recommended to reduce the risk of sudden death and all-cause mortality in patients with symptomatic HF (NYHA class II–III), and an LVEF $\leq 35\%$ despite ≥ 3 months of OMT, provided they are expected to survive substantially longer than 1 year with good functional status, and they have DCM.

I

A Death from Any Cause



C Sudden Cardiac Death



TERAPIA RESINCRONIZACIÓN CARDÍACA

2021

2016

<p>CRT should be considered for symptomatic patients with HF in sinus rhythm with a QRS duration of 130–149 ms and LBBB QRS morphology and with LVEF \leq35% despite OMT in order to improve symptoms and reduce morbidity and mortality.</p>	<p>IIa</p>	<p>CRT is recommended for symptomatic patients with HF in sinus rhythm with a QRS duration of 130–149 ms and LBBB QRS morphology and with LVEF \leq35% despite OMT in order to improve symptoms and reduce morbidity and mortality.</p>	<p>I</p>
<p>Patients with an LVEF \leq35% who have received a conventional pacemaker or an ICD and subsequently develop worsening HF despite OMT and who have a significant proportion of RV pacing should be considered for 'upgrade' to CRT.</p>	<p>IIa</p>	<p>Patients with HFrEF who have received a conventional pacemaker or an ICD and subsequently develop worsening HF despite OMT and who have a high proportion of RV pacing may be considered for upgrade to CRT. This does not apply to patients with stable HF.</p>	<p>IIb</p>

Recommendations for using His bundle pacing

Recommendations	Class ^a	Level ^b
<p>In patients treated with HBP, device programming tailored to specific requirements of HBP is recommended.^{430,431}</p>	<p>I</p>	<p>C</p>
<p>In CRT candidates in whom coronary sinus lead implantation is unsuccessful, HBP should be considered as a treatment option along with other techniques such as surgical epicardial lead.^{318,424,440,443}</p>	<p>IIa</p>	<p>B</p>

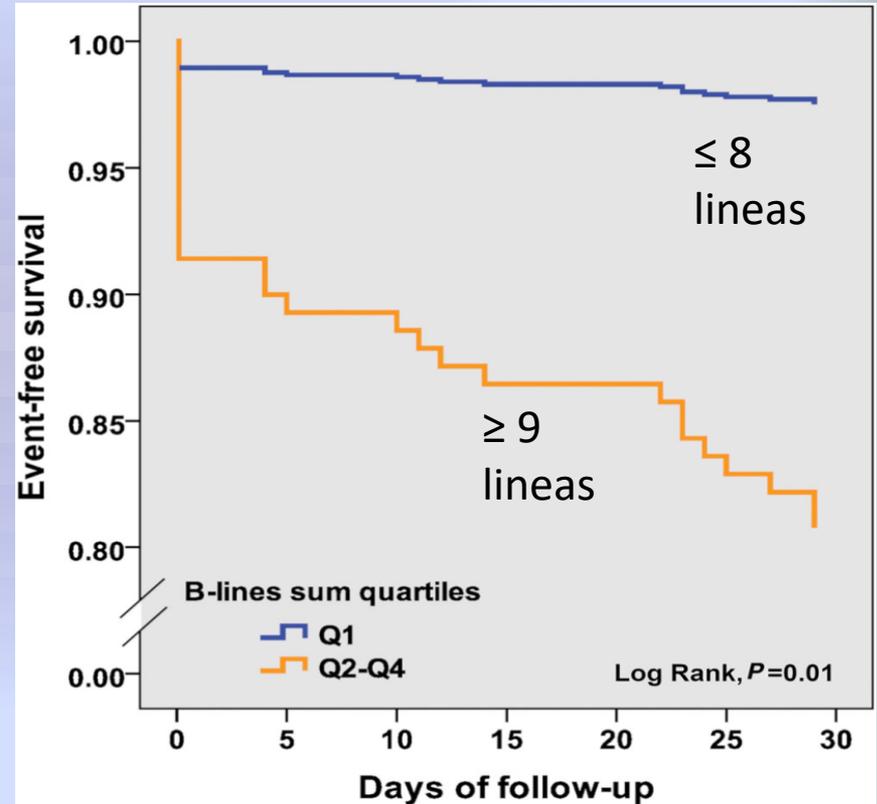
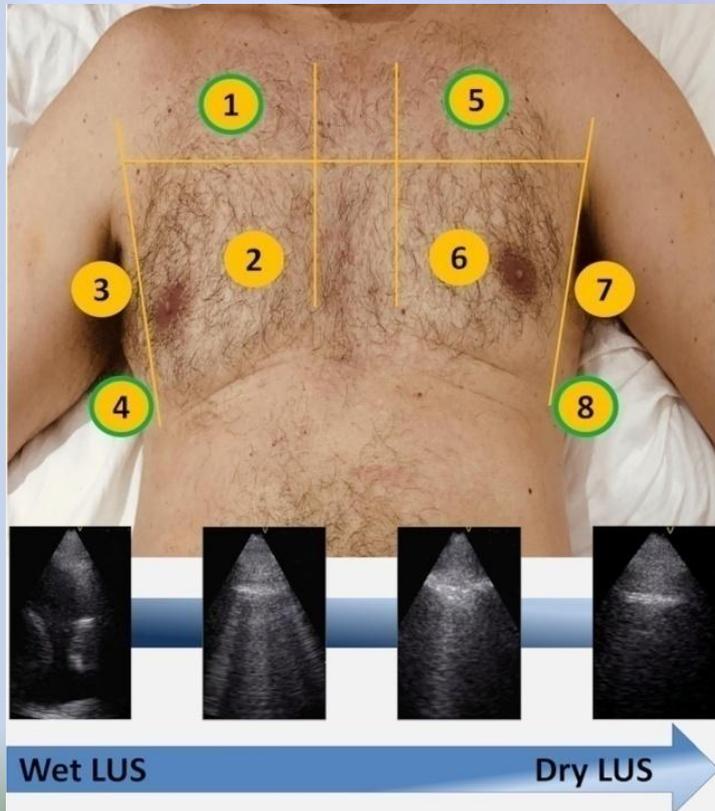
HBP may be considered as an alternative to RV pacing in patients with AVB and LVEF >40%, who are anticipated to have >20% ventricular pacing.^{42,433}

<p>IIb</p>	<p>C</p>
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ECO PULMONAR

PACIENTES:

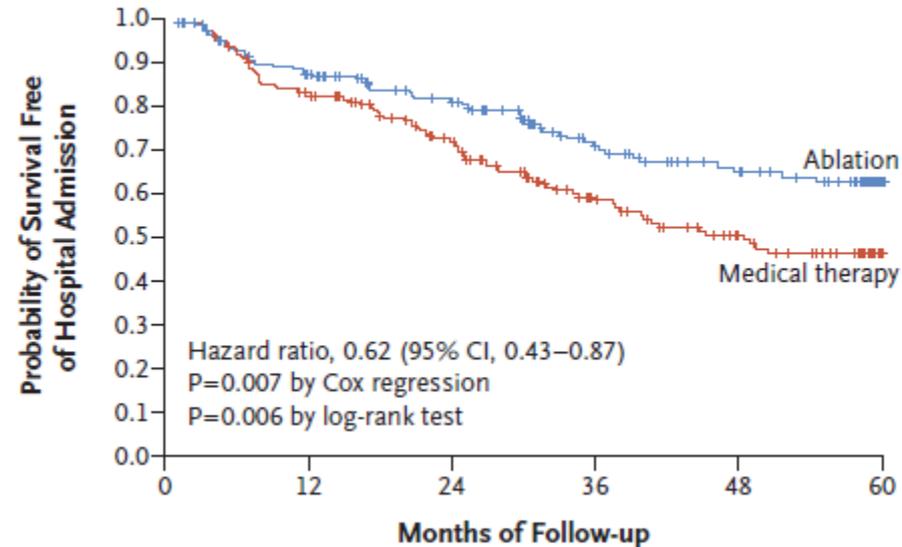
- FEVI <40%.
- Sospecha de descompensación.
- CA125 tuvo la mejor correlación con número de líneas B.



FIBRILACIÓN AURICULAR

Cardioversion		
Cardioversion may be considered in patients in whom there is an association between AF and worsening of HF symptoms despite optimal medical treatment. ^{7,541}	IIb	B
AF catheter ablation		
In cases of a clear association between paroxysmal or persistent AF and worsening of HF symptoms, which persist despite MT, catheter ablation should be considered for the prevention or treatment of AF. ^{552-554,557}	IIa	B

A Death or Hospitalization for Worsening Heart Failure



N Engl J Med 2018;378:417-27.

> [Circulation](#). 2021 Apr 6;143(14):1377-1390. doi: 10.1161/CIRCULATIONAHA.120.050991.

Epub 2021 Feb 8.

Ablation Versus Drug Therapy for Atrial Fibrillation in Heart Failure: Results From the CABANA Trial

Douglas L Packer¹, Jonathan P Piccini², Kristi H Monahan¹, Hussein R Al-Khalidi², Adam P Silverstein², Peter A Noseworthy¹, Jeanne E Poole³, Tristram D Bahnson², Kerry L Lee², Daniel B Mark², CABANA Investigators

OPTIMIZACIÓN FÁRMACOS IC

- CAMBIAR A SACUBITRIL/VALSARTAN
- IVABRADINA: CF \geq II, RS con FC \geq 70 y FEVI \leq 35%.
- DIGOXINA \rightarrow Monitorizar niveles rango 0.8-1.2.

I	B
IIa	B
IIb	B

VERICIGUAT \rightarrow VERQUVO

Indicación aprobada: ICFER postingreso.

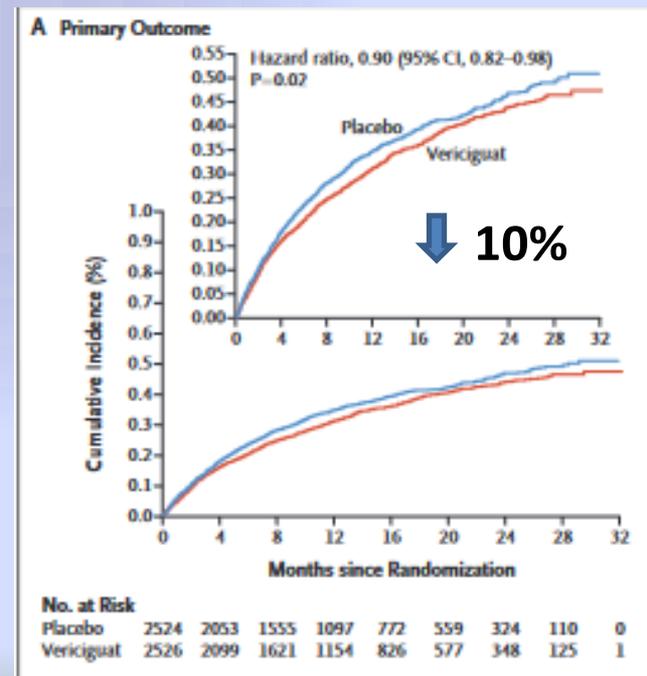
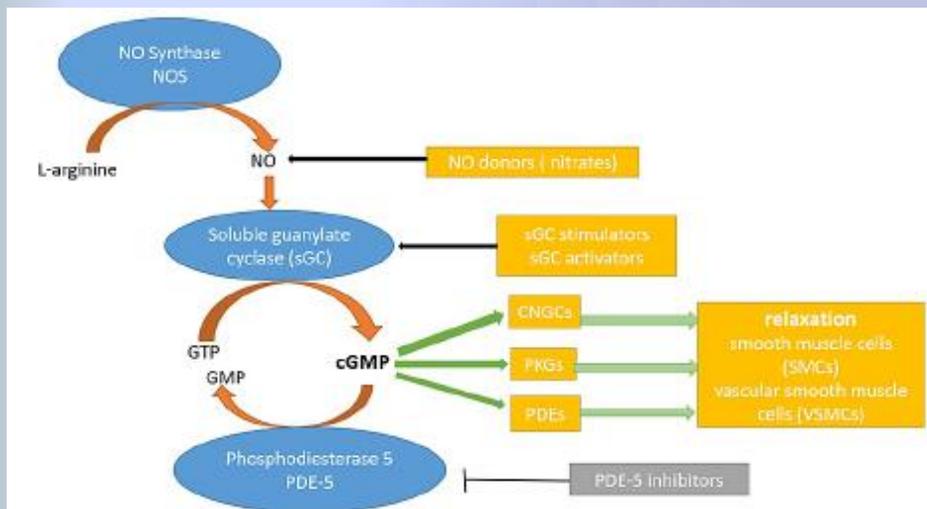
Vericiguat

2.5 mg o.d.

10 mg o.d.

IIb

B



NT-proBNP level

Quartile 1 (\leq 1556.0 pg/ml)		0.78 (0.62-0.99)
Quartile 2 ($>$ 1556.0 to \leq 2816.0 pg/ml)		0.73 (0.60-0.90)
Quartile 3 ($>$ 2816.0 to \leq 5314.0 pg/ml)		0.82 (0.69-0.99)
Quartile 4 ($>$ 5314.0 pg/ml)		1.16 (0.99-1.35)

IC AVANZADA

All the following criteria must be present despite optimal medical treatment:

1. Severe and persistent symptoms of heart failure [NYHA class III (advanced) or IV].
2. Severe cardiac dysfunction defined by at least one of the following:
 - LVEF \leq 30%
 - Isolated RV failure (e.g., ARVC)
 - Non-operable severe valve abnormalities
 - Non-operable severe congenital abnormalities
 - Persistently high (or increasing) BNP or NT-proBNP values and severe LV diastolic dysfunction or structural abnormalities (according to the definitions of HFpEF).
3. Episodes of pulmonary or systemic congestion requiring high-dose i.v. diuretics (or diuretic combinations) or episodes of low output requiring inotropes or vasoactive drugs or malignant arrhythmias causing >1 unplanned visit or hospitalization in the last 12 months.
4. Severe impairment of exercise capacity with inability to exercise or low 6MWT distance (<300 m) or pVO_2 <12 mL/kg/min or <50% predicted value, estimated to be of cardiac origin.

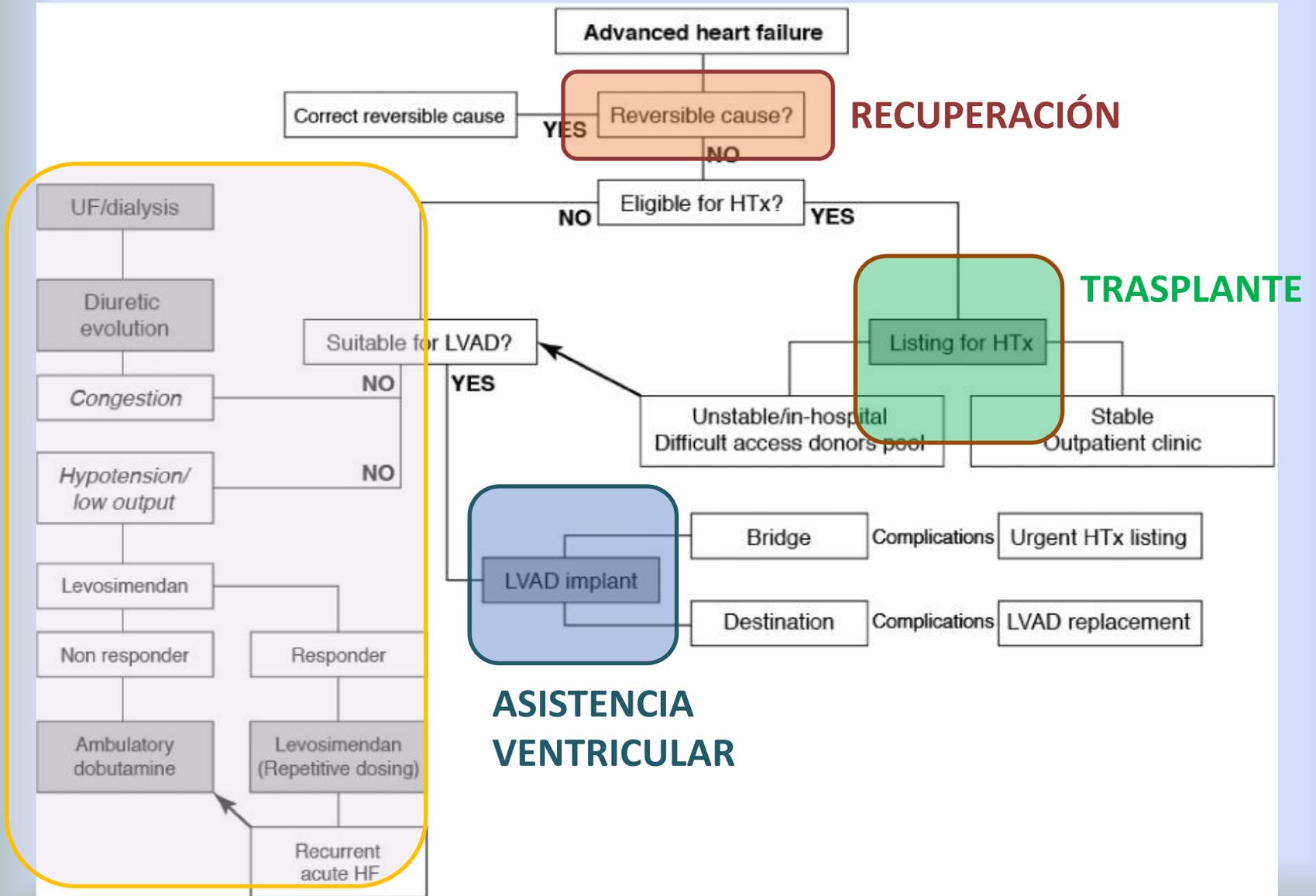
I	Inotropes	Previous or ongoing requirement for dobutamine, milrinone, dopamine, or levosimendan
N	NYHA class/NP	Persisting NYHA class III or IV and/or persistently high BNP or NT-proBNP
E	End-Organ Dysfunction	Worsening renal or liver dysfunction in the setting of HF
E	Ejection Fraction	Very low EF <20%
D	Defibrillator shocks	Recurrent appropriate defibrillator shocks
H	Hospitalizations	More than 1 hospitalization with HF in the last 12 months
E	Edema/Escalating diuretics	Persisting fluid overload and/or increasing diuretic requirement
L	Low blood pressure	Consistently low blood pressure with SBP <90 to 100 mmHg
P	Prognostic medication	Inability to uptitrate (or need to decrease/cease) ACE-Is, beta-blockers, ARNIs, or MRAs

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CONSULTAR/DERIVAR → UNIDAD IC AVANZADA

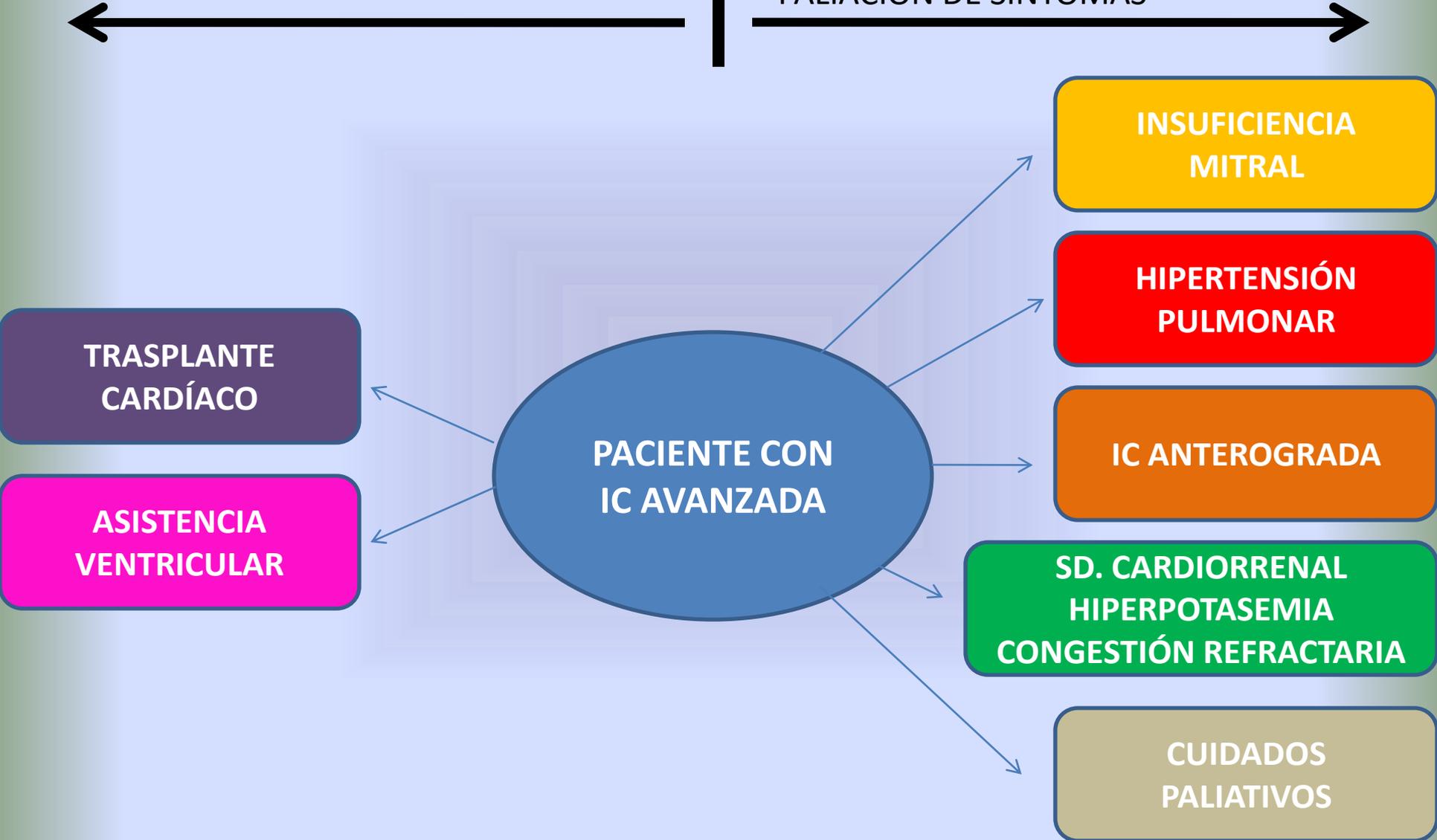
IC AVANZADA

PALIACIÓN



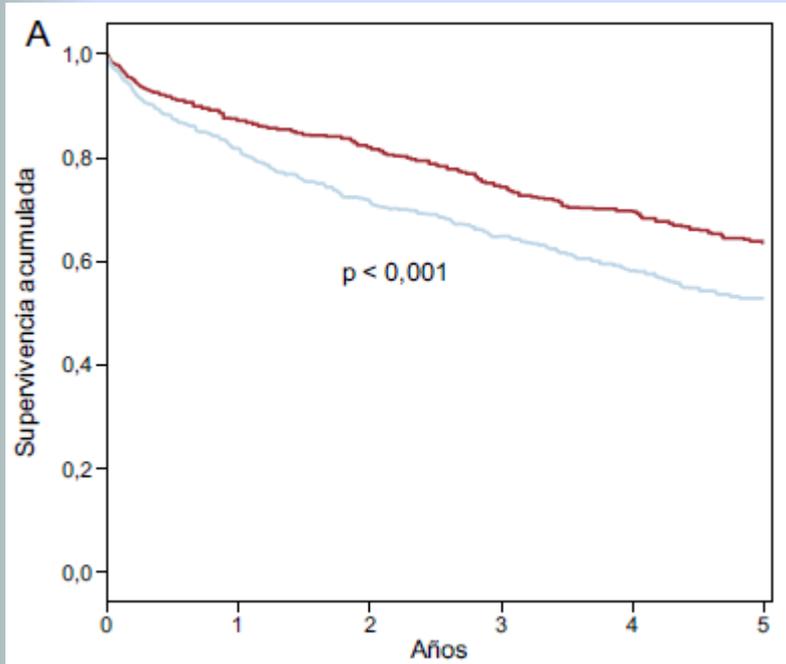
ALARGAR SUPERVIVENCIA
MEJORAR CALIDAD DE VIDA

MEJORAR CALIDAD VIDA
EVITAR INGRESOS HOSPITALARIOS
PALIACIÓN DE SÍNTOMAS



INSUFICIENCIA MITRAL

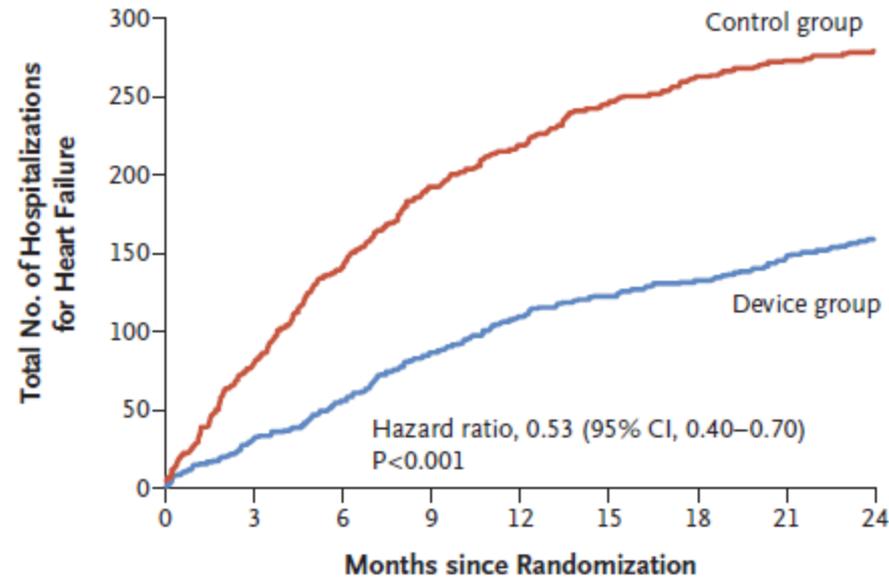
REC 2017 Sep;70(9):785-787



COAPT TRIAL:

- FEVI 20-50%.
- DTSVI <70 mm.
- PAPs <70 mmHg.
- VD correcto.
- Ausencia IT severa.
- Estabilidad hemodinámica.

Hospitalization for Heart Failure



Secondary mitral regurgitation

Percutaneous edge-to-edge mitral valve repair should be considered in carefully selected patients with secondary mitral regurgitation, not eligible for surgery and not needing coronary revascularization, who are symptomatic^c despite OMT and who fulfil criteria^d for achieving a reduction in HF hospitalizations.⁶¹²

IIa

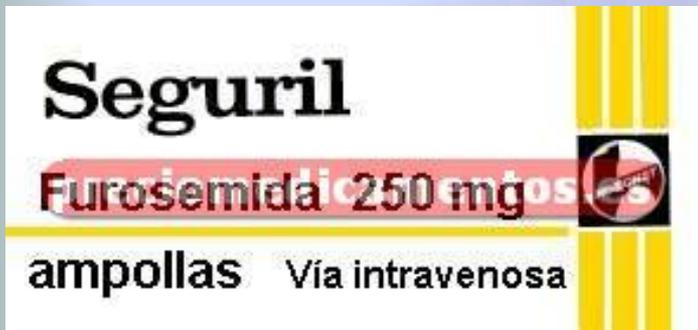
B

SD. CARDIORRENAL/CONGESTIÓN

1. UNIDADES CARDIORRENAL.

2. QUELANTES POTASIO

- Ciclosilicato de sodio y zirconio.
- Patiomer.



High Blood Pressure & Cardiovascular Prevention
<https://doi.org/10.1007/s40292-021-00476-4>

ORIGINAL ARTICLE



Administration of Subcutaneous Furosemide in Elastomeric Pump vs. Oral Solution for the Treatment of Diuretic Refractory Congestion

Raquel López-Vilella^{1,2} · Ignacio Sánchez-Lázaro^{1,2,3} · Inmaculada Husillos Tamarit^{1,2} · Emilio Monte Boquet⁴ · Julio Núñez Villota^{3,5,6} · Víctor Donoso Trenado^{1,2} · Luis Martínez Dolz^{2,3} · Luis Almenar Bonet^{1,2,3,6}

IC ANTEROGRADA

Continuous inotropes and/or vasopressors may be considered in patients with low cardiac output and evidence of organ hypoperfusion as bridge to MCS or heart transplantation.^{389,390}

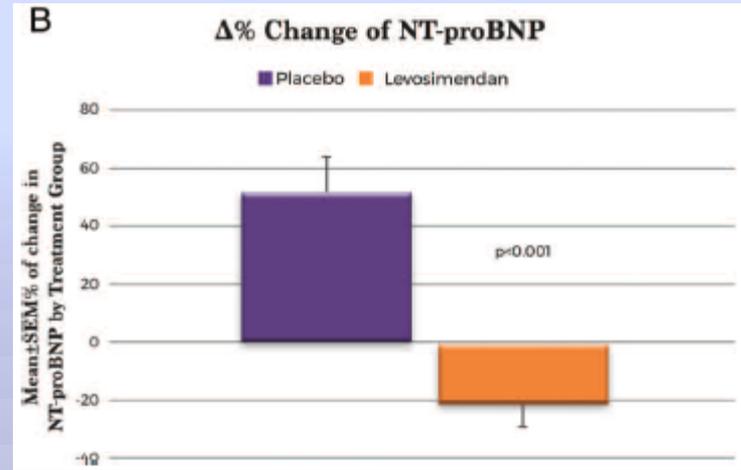
IIB

C

LEVOSIMENDAN

LION-HEART TRIAL:

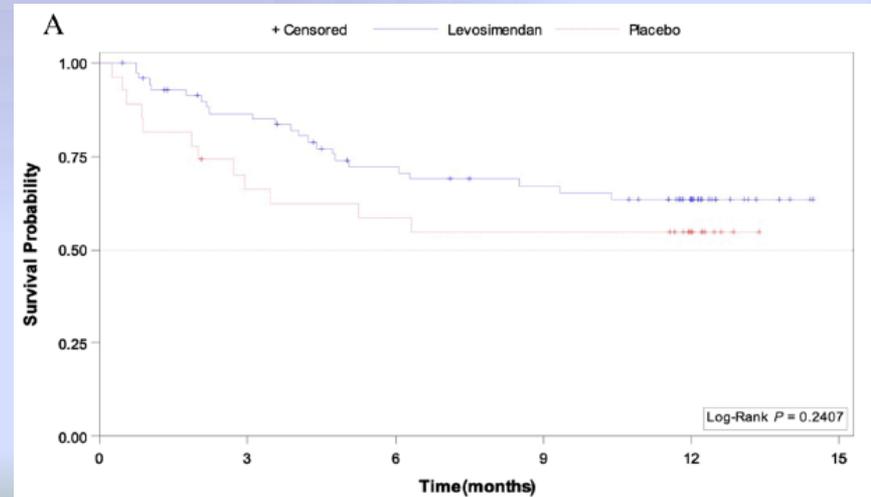
- FEVI $\leq 35\%$.
- IC avanzada.
- Ciclos 0.2 mcg/kg/min (6h).
- Quincenal durante 12 semanas.



Hospitalisation	19	11 (22.9)	22.9	18	14 (66.7)	66.7	0.001	0.25 (0.11–0.56)	0.001
HF hospitalisation	21	12 (25.0)	25.0	23	14 (66.7)	66.7	0.003	0.27 (0.12–0.59)	0.001
CV hospitalisation	15	9 (18.8)	18.8	5	4 (19.0)	19.0	0.999	1.01 (0.31–3.27)	0.990
Non-CV hospitalisation	36	17 (35.4)	35.4	28	15 (71.4)	71.4	0.012	0.37 (0.19–0.75)	0.006
All-cause hospitalisation									

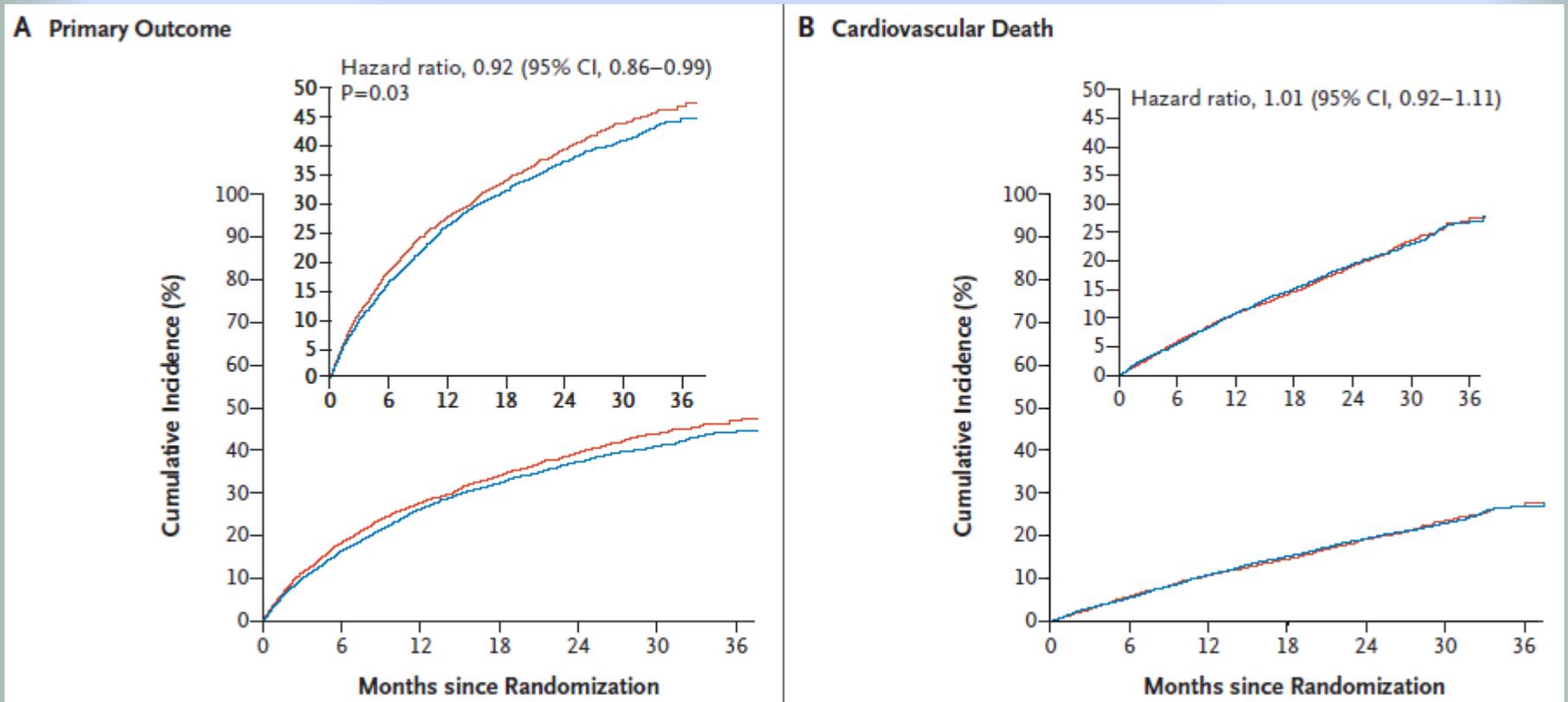
LAICA TRIAL

- FEVI $\leq 35\%$.
- IC avanzada.
- 1 ingreso previo por IC.
- Ciclos 0.1 mcg/kg/min (24h).
- Mensual durante 12 meses.



IC ANTEROGRADA

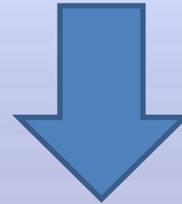
OMECAMTIV → Activador de la miosina cardíaca



A expensas de visitas urgentes // No mejoró el KCCQ

CUIDADOS PALIATIVOS

¿TE SORPRENDERÍA QUE TU PACIENTE MURIERA EN <1 AÑO?



NO

Tabla II. HexCom^{®2018} Versión reducida y de detección rápida.

HexCom-Red^{®2018}: instrumento para la detección rápida de complejidad.

DETECCIÓN DE SITUACIÓN ASISTENCIAL COMPLEJA: ELEMENTOS INDICADORES.

Refractariedad: clínica o terapéutica

Aplicación de la guía clínica correspondiente al caso sin el resultado esperado. Sí / No

Dificultad terapéutica. No adherencia al tratamiento Sí / No

Necesidad de terapias novedosas o de uso inhabitual para el equipo referente Sí / No

Sufrimiento vital persistente (SVP): vivencial o relacional

Vivencial: psicoemocional Sí / No

Vivencial: espiritual Sí / No

Relacional: sociofamiliar Sí / No

Relacional: por aspectos éticos (paciente-familia-circuito asistencial). Sí / No

La presencia de cualquiera de ellos orienta el caso como complejo

TRASPLANTE CARDÍACO

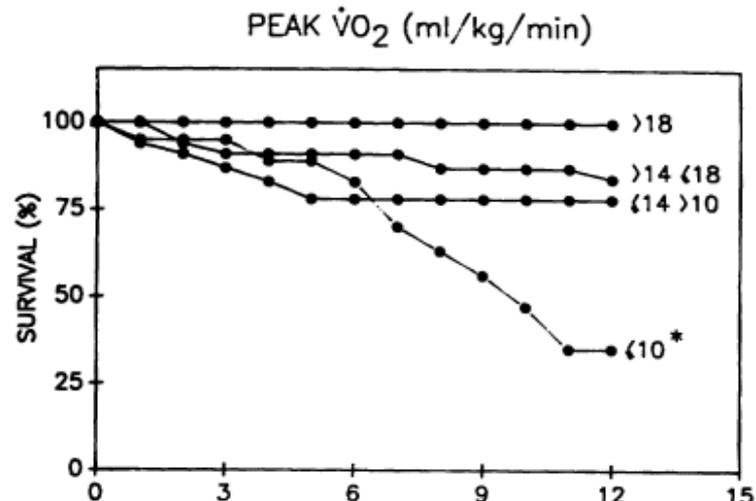
Heart transplantation is recommended for patients with advanced HF, refractory to medical/device therapy and who do not have absolute contraindications.

I

C

Insuficiencia cardíaca avanzada

- Dependientes de inotropos
- Clase funcional III-IV. Ingresos.
- Consumo O₂ <10 ml/kg/min



Contraindicaciones absolutas:

- Neoplasia activa.
- Enfermedad invalidante otro órgano.
- Enfermedad sistémica pronóstico vital <2 años.
- Hipertensión pulmonar irreversible:
 - PAPs > 60, GTP > 15 o UW > 5 post test vasodilatador.

Contraindicaciones relativas:

- Edad.
- IMC >35.
- Consumo alcohol o tabaco.
- Diabetes mellitus afectación multiorgánica.
- Enfermedad vascular periférica.
- Infección activa.
- Escaso soporte social.

ASISTENCIA VENTRICULAR

Long-term MCS should be considered in patients with advanced HFrEF despite optimal medical and device therapy, not eligible for heart transplantation or other surgical options, and without severe right ventricular dysfunction, to reduce the risk of death and improve symptoms.^{378,396,397,401,402,404,417}

Ila

A

Long-term MCS should be considered in patients with advanced HFrEF refractory to optimal medical and device therapy as a bridge to cardiac transplantation in order to improve symptoms, reduce the risk of HF hospitalization and the risk of premature death.^{398-400,402,404}

Ila

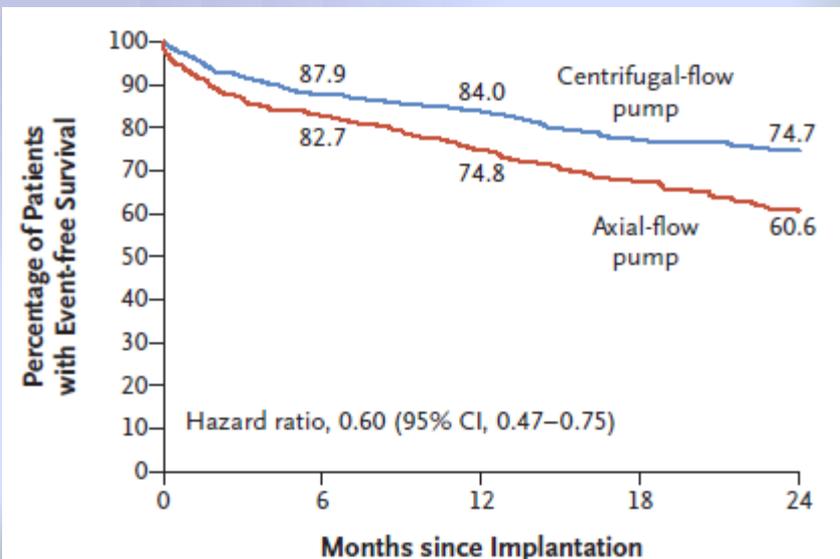
B

Patients with persistence of severe symptoms despite optimal medical and device therapy, without severe right ventricular dysfunction and/or severe TR, with a stable psychosocial background and absence of major contraindications*, and who have at least one of the following:

- LVEF <25% and unable to exercise for HF or, if able to perform cardiopulmonary exercise testing, with peak VO_2 <12 mL/kg/min and/or <50% predicted value.
- ≥ 3 HF hospitalizations in previous 12 months without an obvious precipitating cause.
- Dependence on i.v. inotropic therapy or temporary MCS.
- Progressive end-organ dysfunction (worsening renal and/or hepatic function, type II pulmonary hypertension, cardiac cachexia) due to reduced perfusion and not to inadequately low ventricular filling pressure (PCWP ≥ 20 mmHg and SBP ≤ 90 mmHg or cardiac index ≤ 2 L/min/m²).

CONSIDERACIONES

- Selección adecuada.
- Principales riesgos:
 - Disfunción del VD.
 - Trombosis dispositivo.
 - Hemorragias.
 - Infección Driveline.



MUCHAS GRACIAS

