

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



#ACORUÑAHF2025



LVADS: How to improve clinical outcomes?

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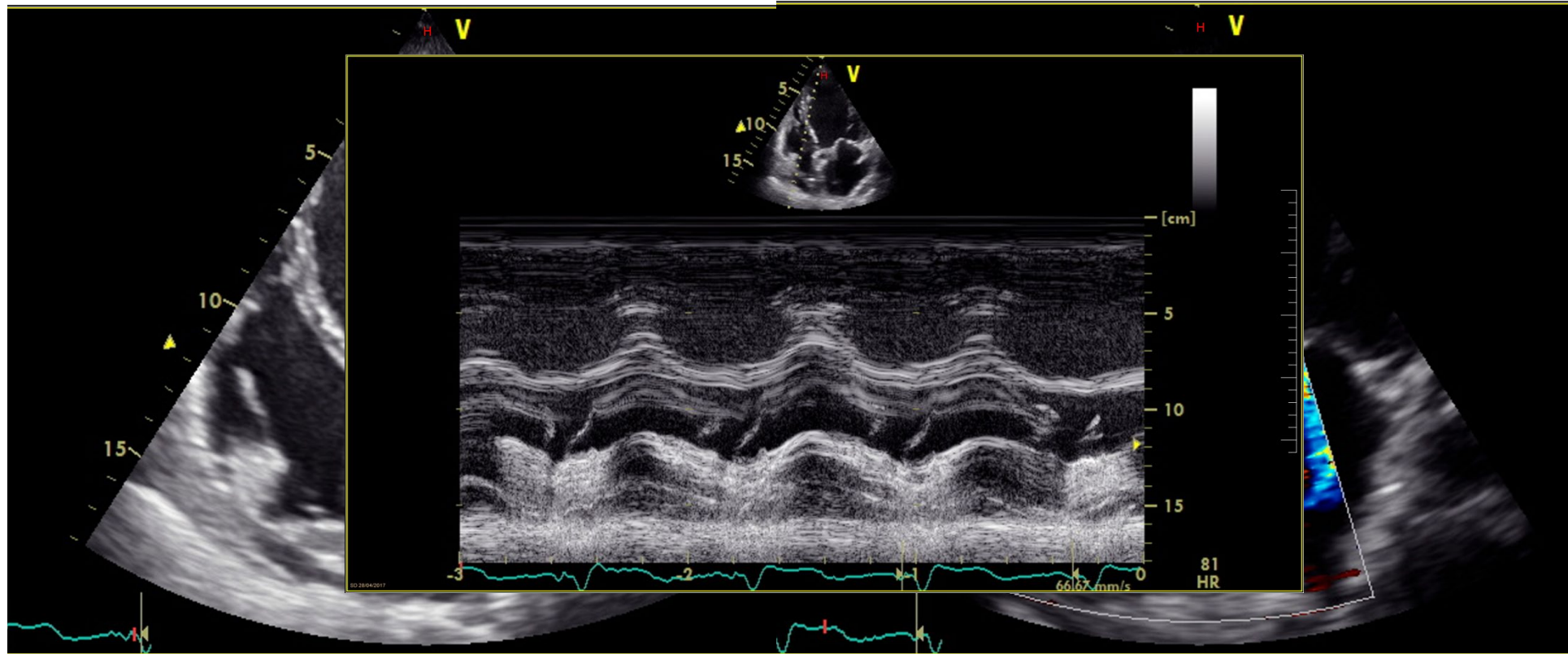
Clinical Case

- 71 year old woman, DLP
- 2013: Heart failure due to dilated cardiomyopathy with severe LV dysfunction and normal coronary arteries.
- Cardiac MRI 2015: Severely dilated LV (non-compaction) with LVEF=13%. Midseptal fibrosis. Non dilated RV with EF=32%. Dilated LA (30 cm²). Mild MR.
- 2015: CRT-D because of FC III NYHA on OMT
- Paroxysmal AF
- Because of FC III-IV and 2 HF decompensations, treated with intermittent Levosimendan since April 2016
- Arrhythmic storm in March 2017 in context of long QT. Amiodarone withdrawn and Mexiletine initiated.
- Sept 2017 HF decompensation after AF and VT
- Oct 2017 new HF decompensation

Clinical case

■ GFR:40 ml/min, Hb:12 g/dL, NTproBNP:3182 ng/L

RHC: BP:98/55 mm Hg, HR:63 bpm, CVP:8 mm Hg, PAP:45/30/21 mm Hg,
Wedge:23 mm Hg; CO:3.6 l/min, CI:1.9 l/min/m²; TPG:6 mm Hg; RVP:1,5 WU

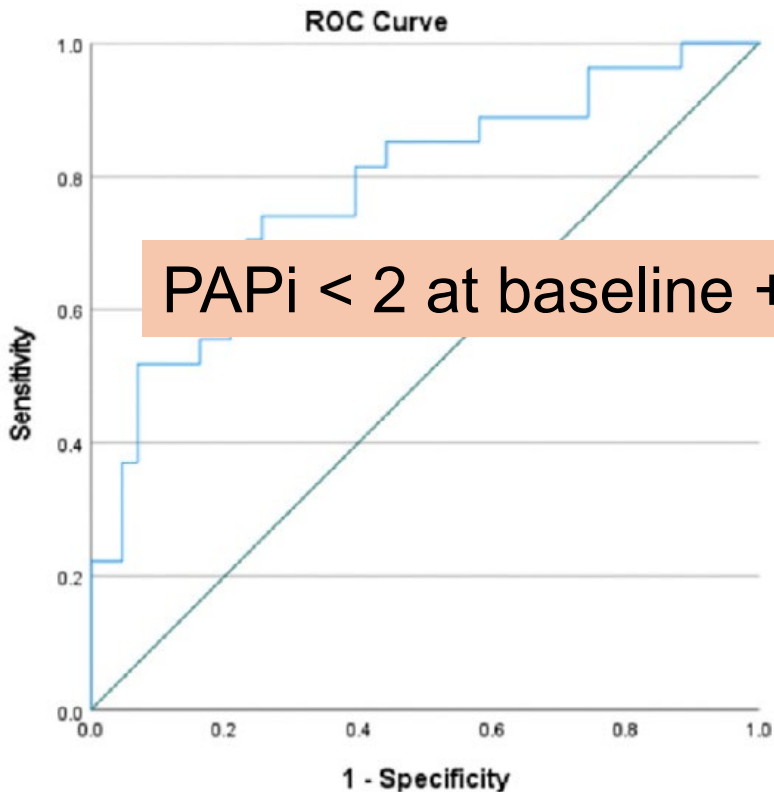


Echo: LVEDD of 78 mm with LVEF=22%, Moderate MR. RV slightly dilated with TAPSE=17 mm. Mild TR with PAP:45 mm Hg. CVP normal

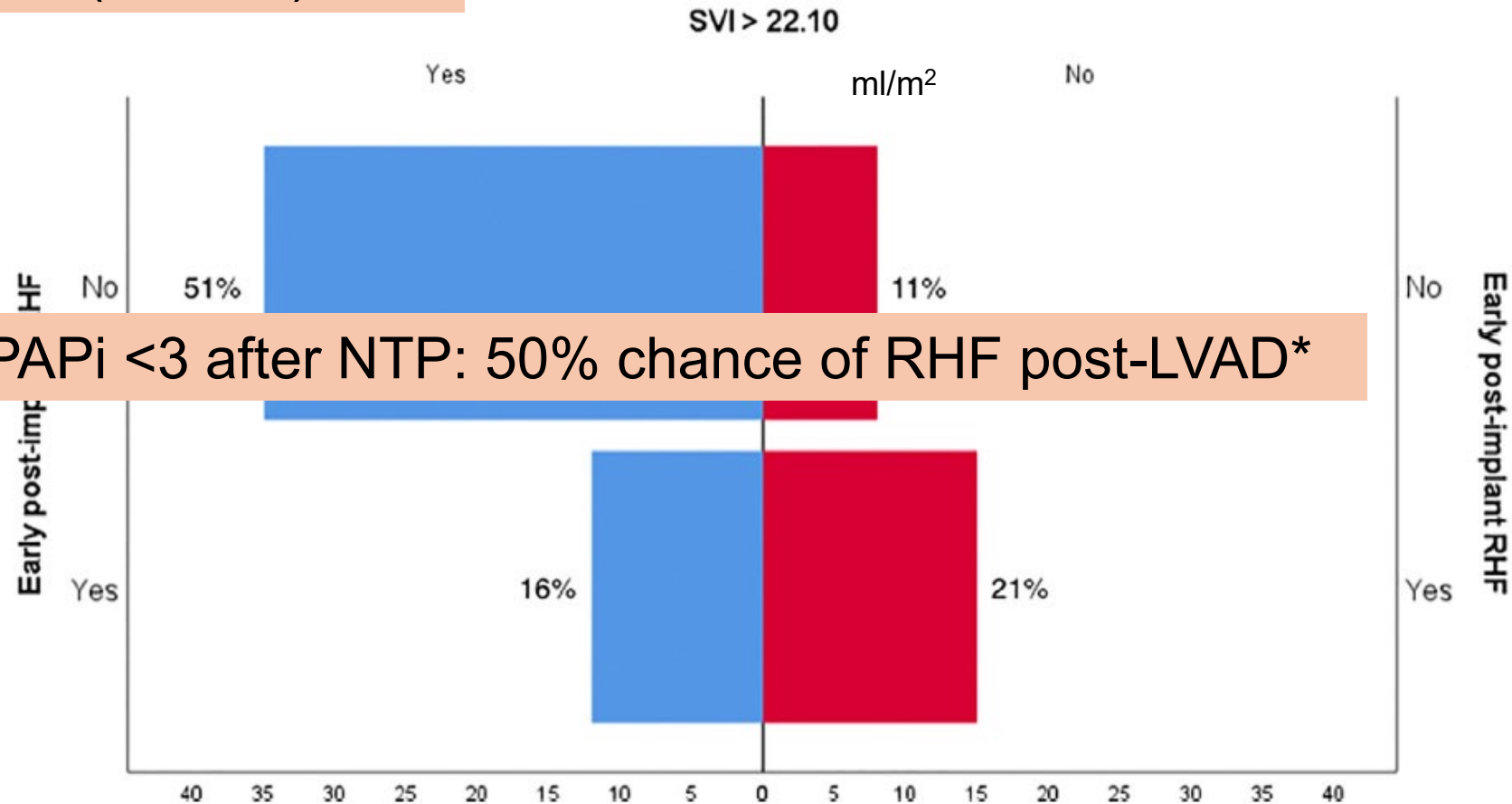
Vasodilatory challenge for RV reserve

$$SVI = (CO/HR)/BSA$$

Peak SVI (AUC 0.780, p<0.001)



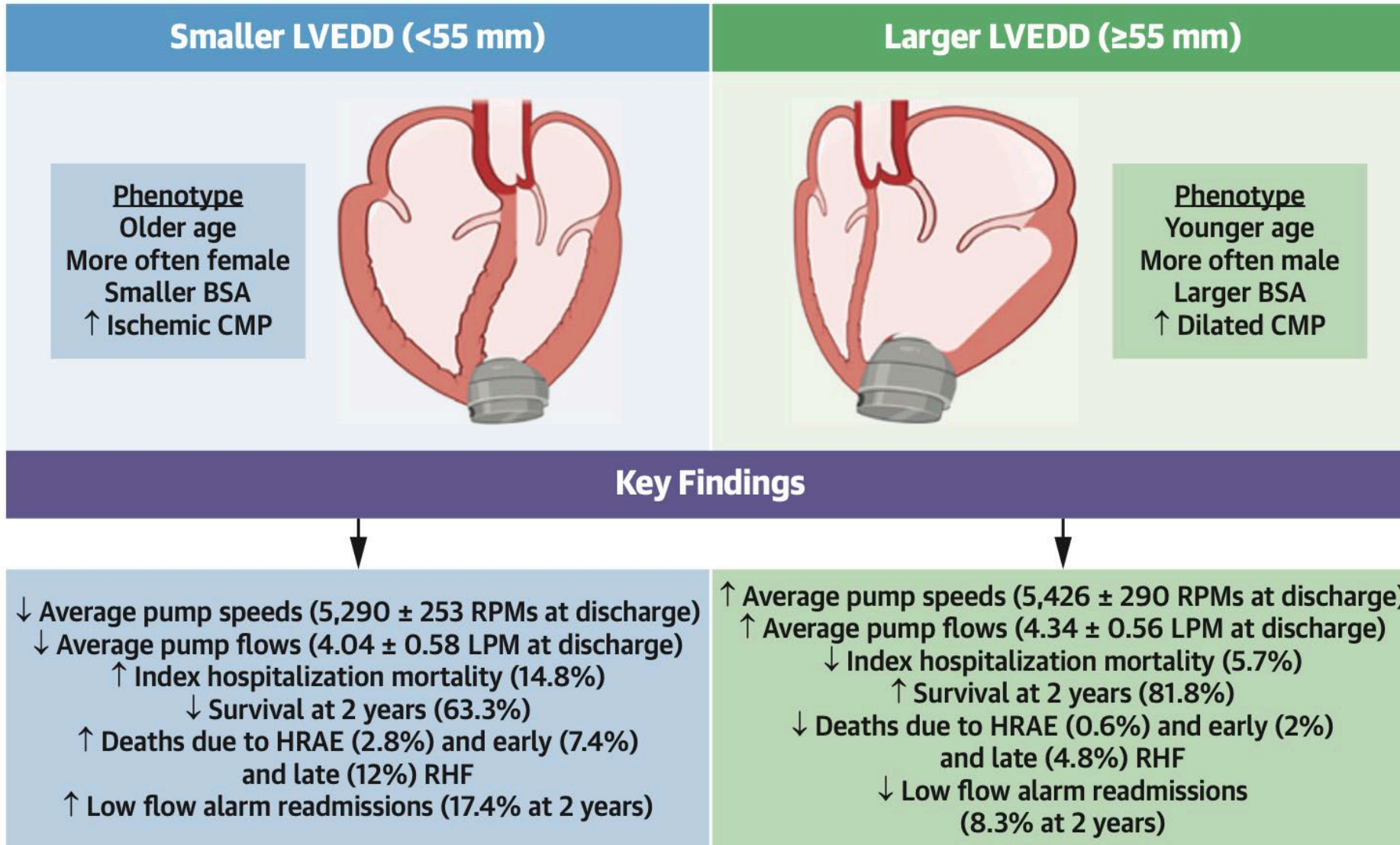
PAPi < 2 at baseline + PAPi < 3 after NTP: 50% chance of RHF post-LVAD*



Read JM et al. J Heart Lung Transplant 2022;41:1716-1726

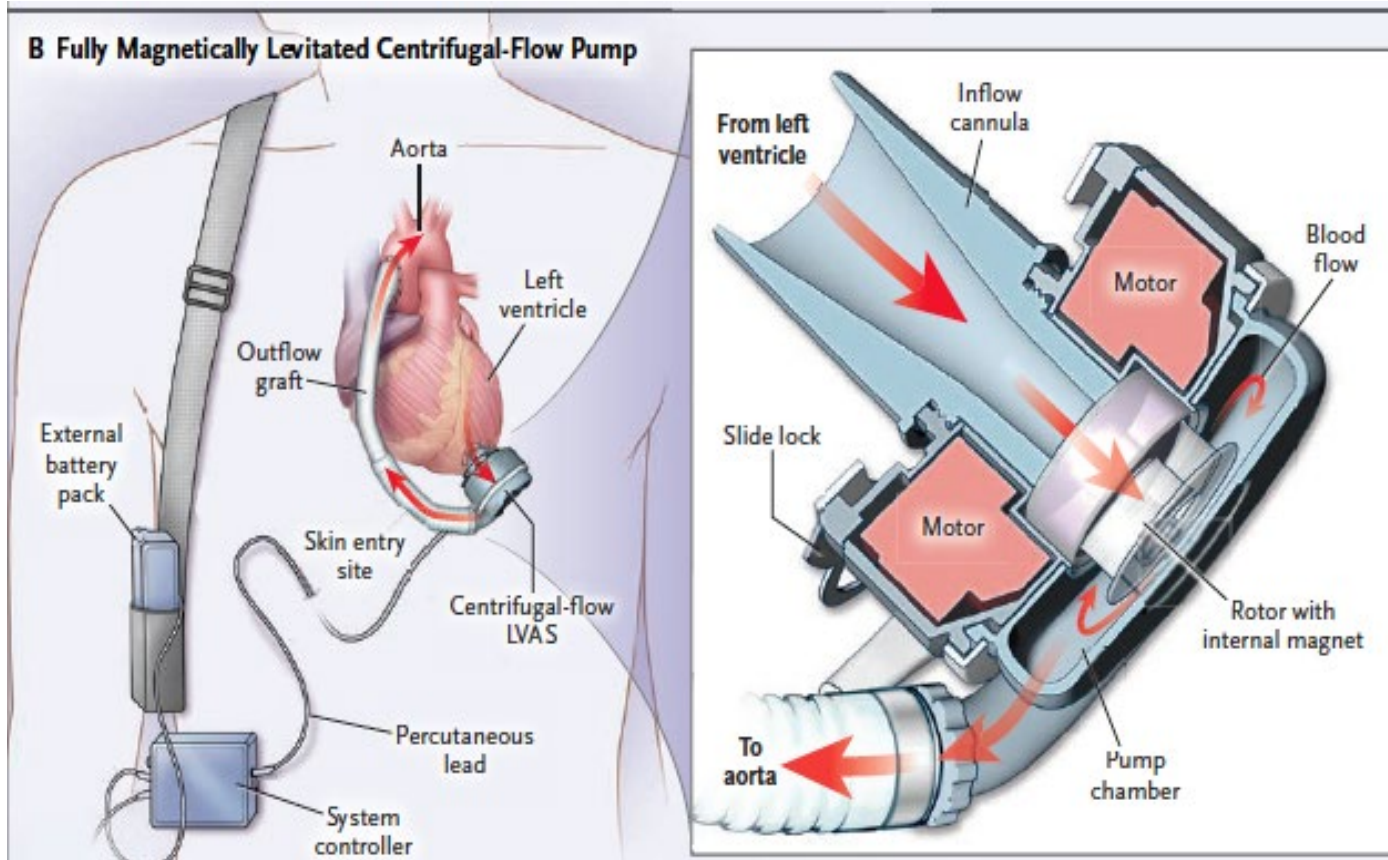
Gallone G et al. ISHLT 2025 abstract (submitted)

Good indication: Dilated LV



Molina EJ et al. JACC HF 2025;13:798-811

Heartmate 3: Full magnetic levitation



Características:

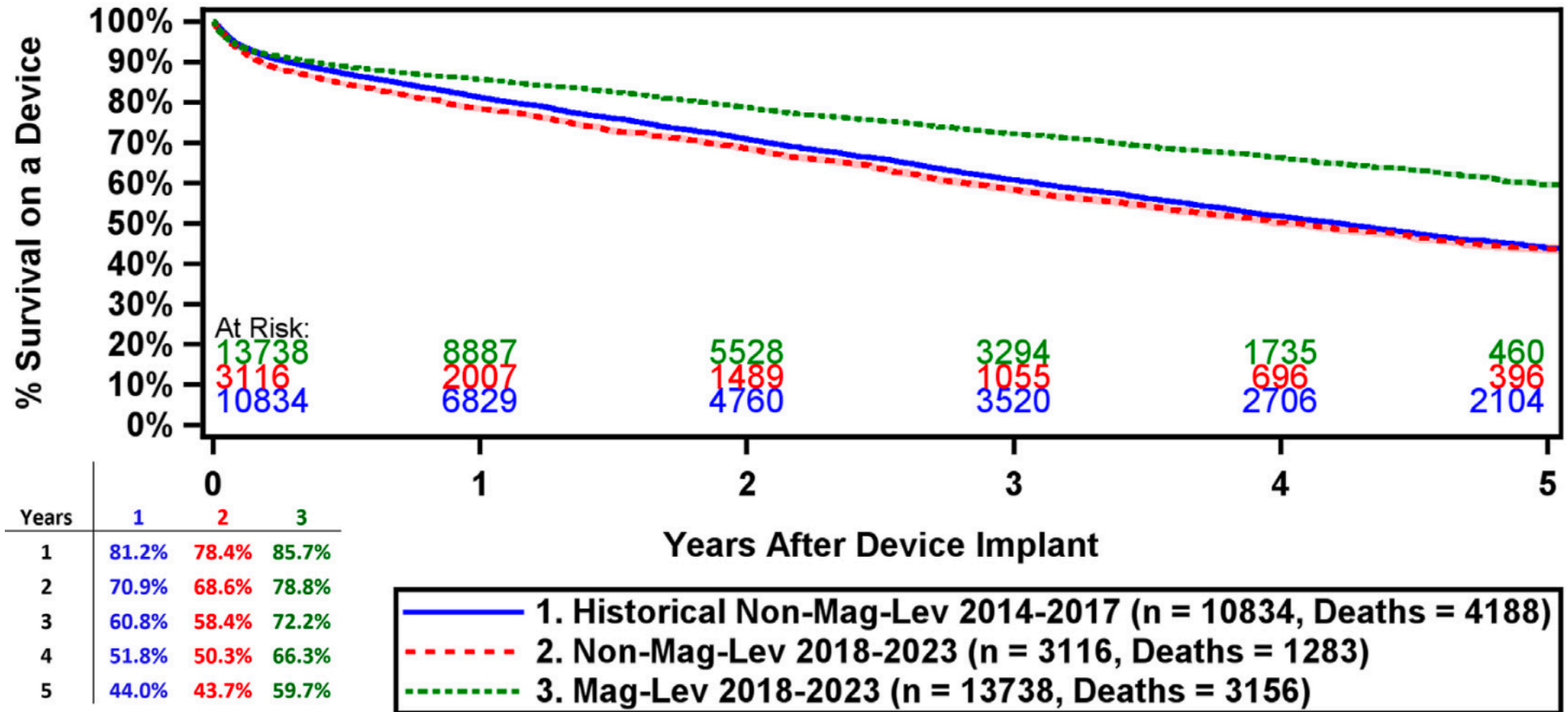
- Bomba algo más grande que HVAD
- Levitación magnética total
- Menos rpm que Heartmate II
- Posibilidad de implante por toracotomía
- Pulsatilidad intrínseca
- Driveline modular



The Heartmate 3 is a game changer

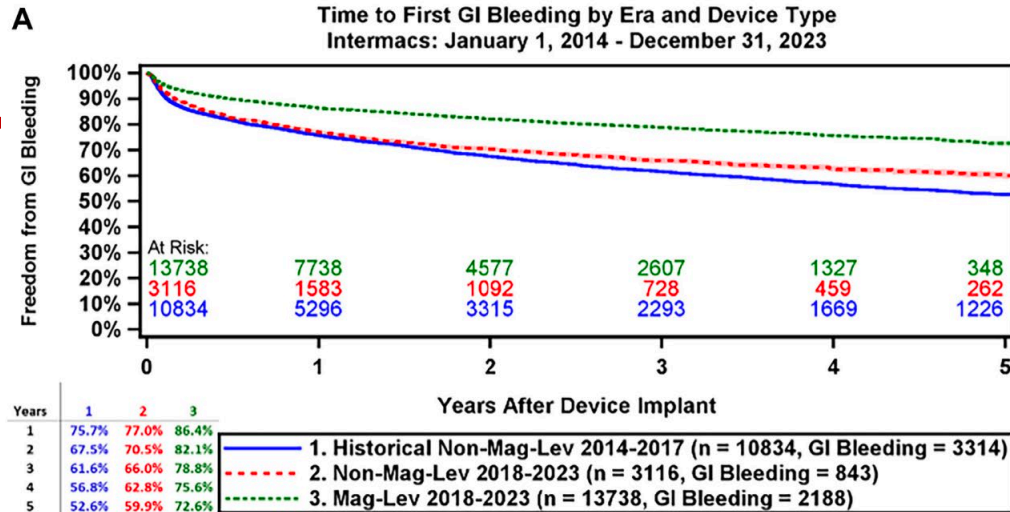
- Traslá

Survival by Era and Device Type
Intermacs: January 1, 2014 - December 31, 2023

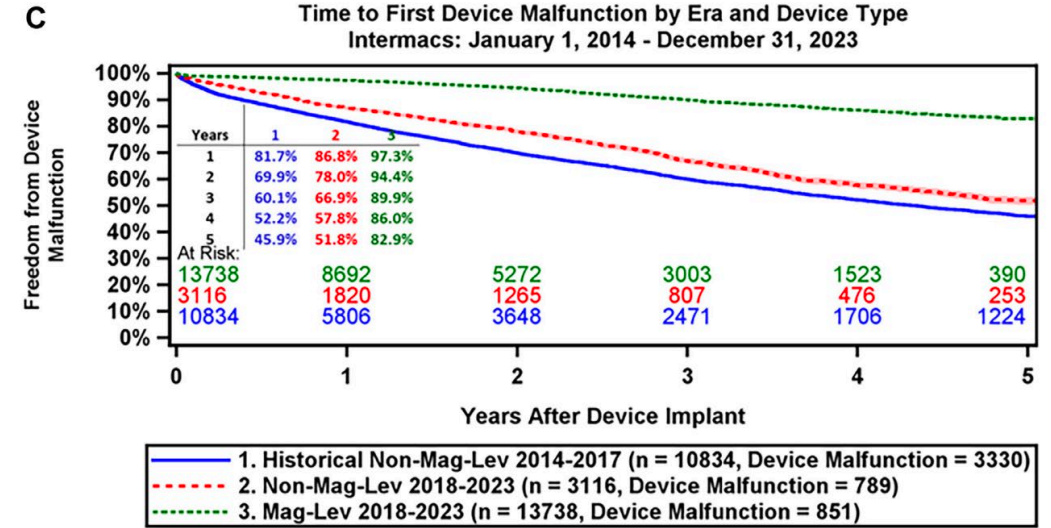
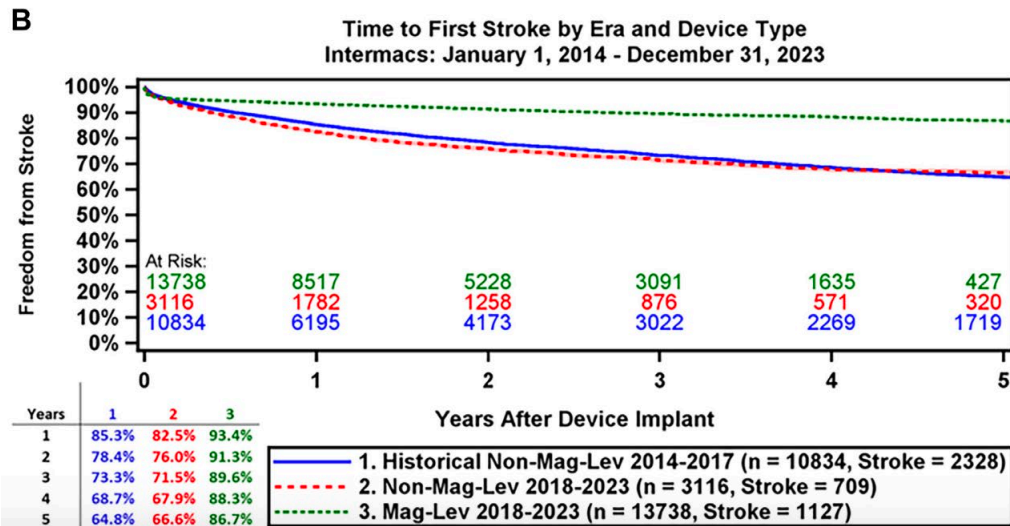


Meyer et al. Ann Thorac Surg 2025;119:34-58

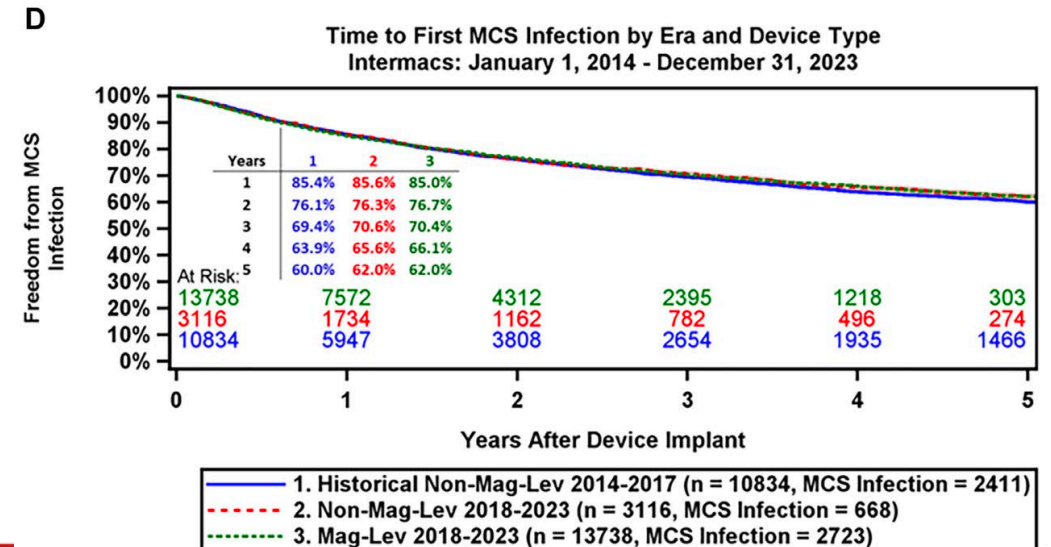
Heartmate 3 is a game changer



Shaded areas indicate 70% confidence limits
 p (log-rank) = <.0001
 Event: GI Bleeding (censored at death, tx, cess. of supp)

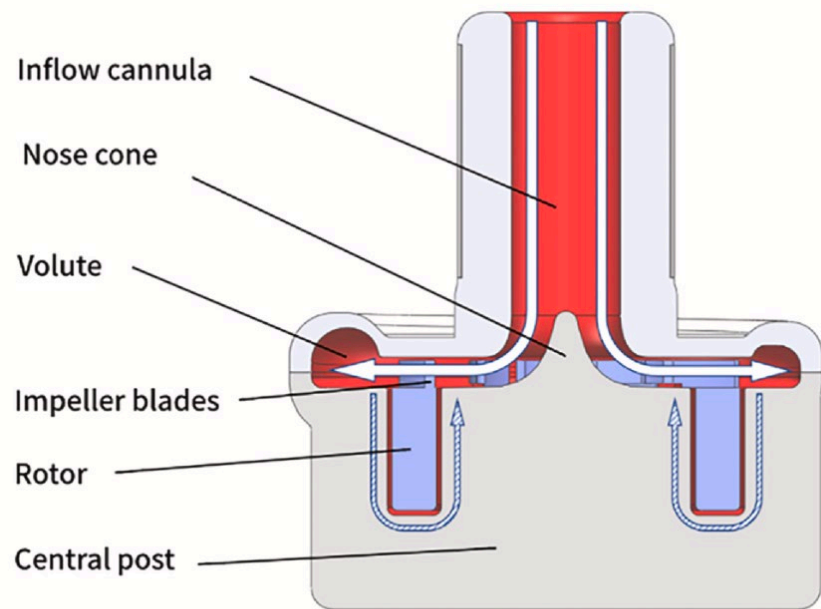
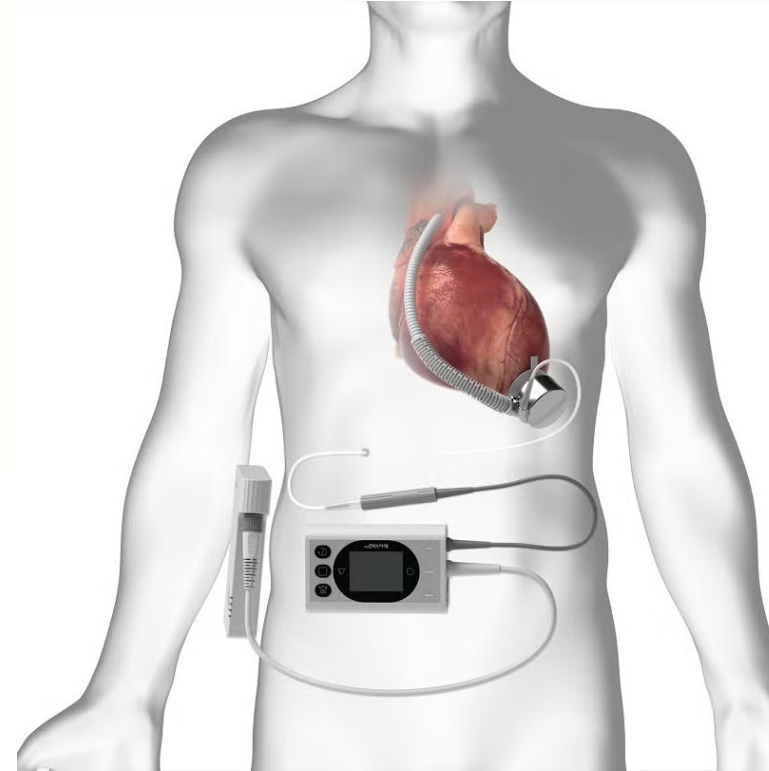
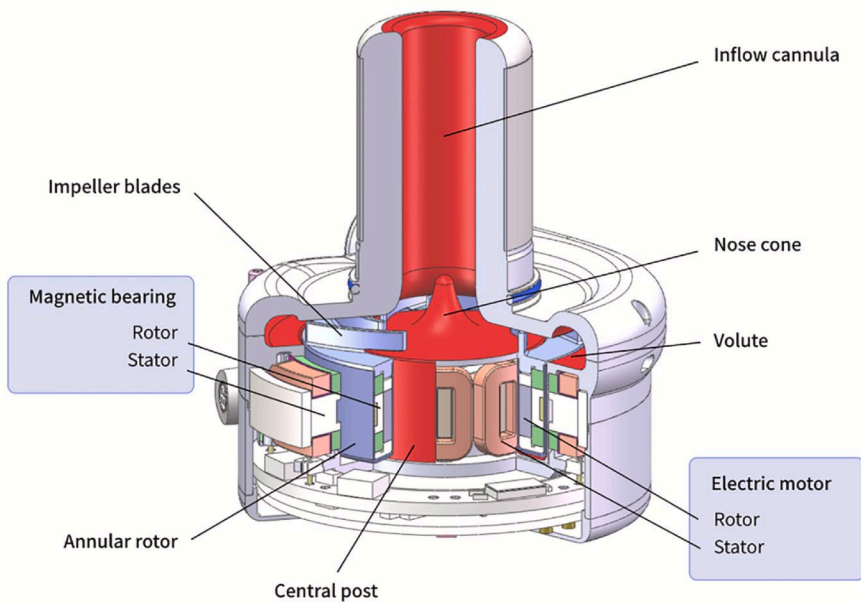


Shaded areas indicate 70% confidence limits
 p (log-rank) = <.0001
 Event: Device Malfunction (censored at death, tx, cess. of supp)



BrioVAD

Ensayo Clínico randomizado
INNOVATE activo



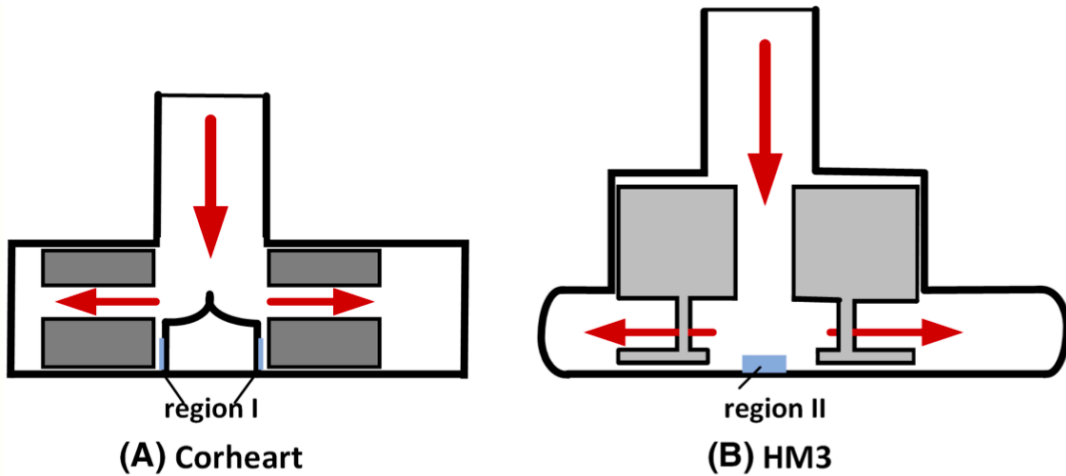
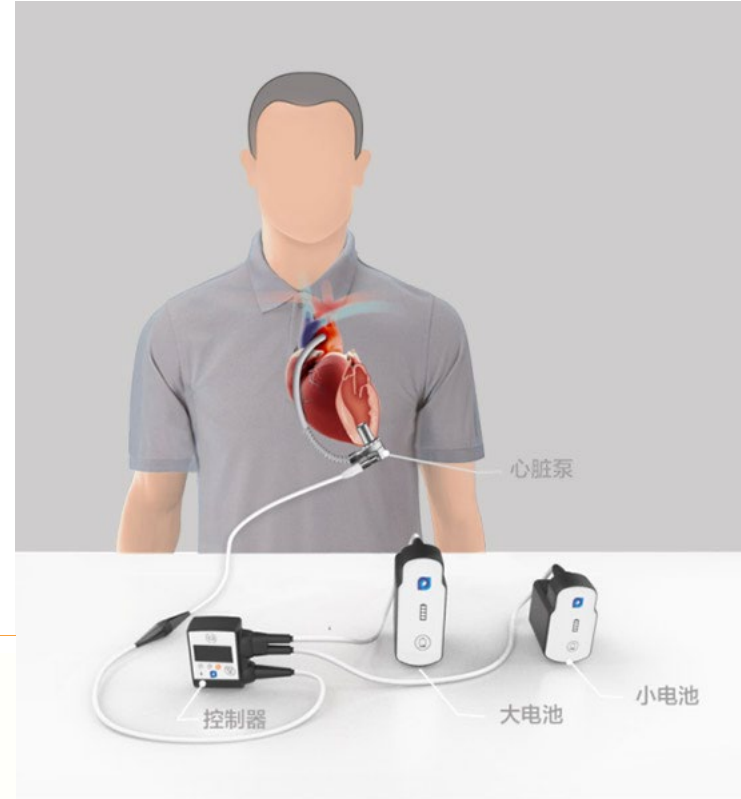
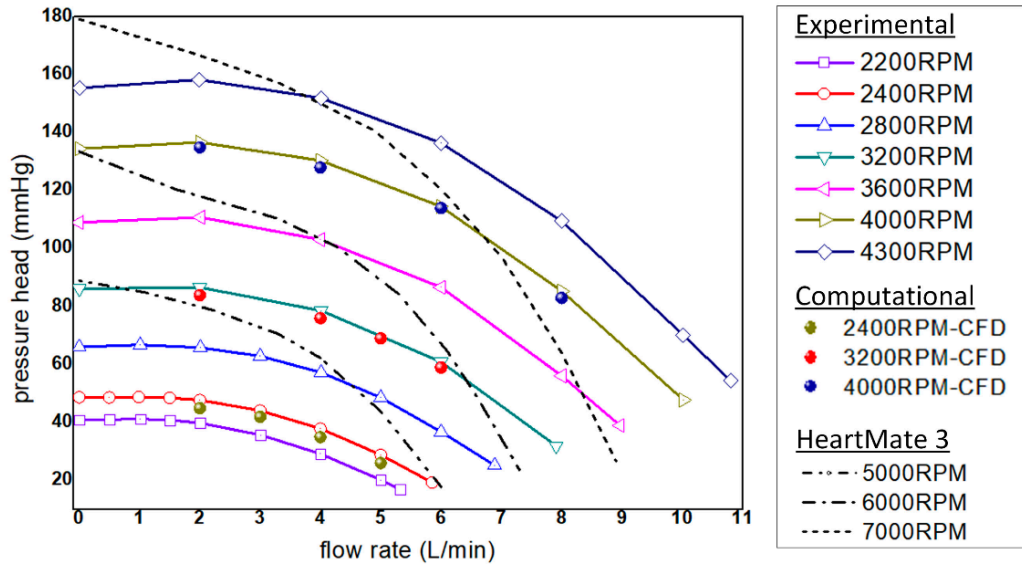
- Narrow (3.5 mm outer diameter) and flexible driveline

Centrífuga con levitación magnética total
Posibilidad de implante por toracotomía
Pulsatilidad intrínseca por curvas presión-flujo planas
Driveline más fino y flexible
Outflow graft 10 mm (como HVAD)
Periféricos más ligeros y pequeños



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Corheart 6



Características:

Centrífuga con levitación magnética total

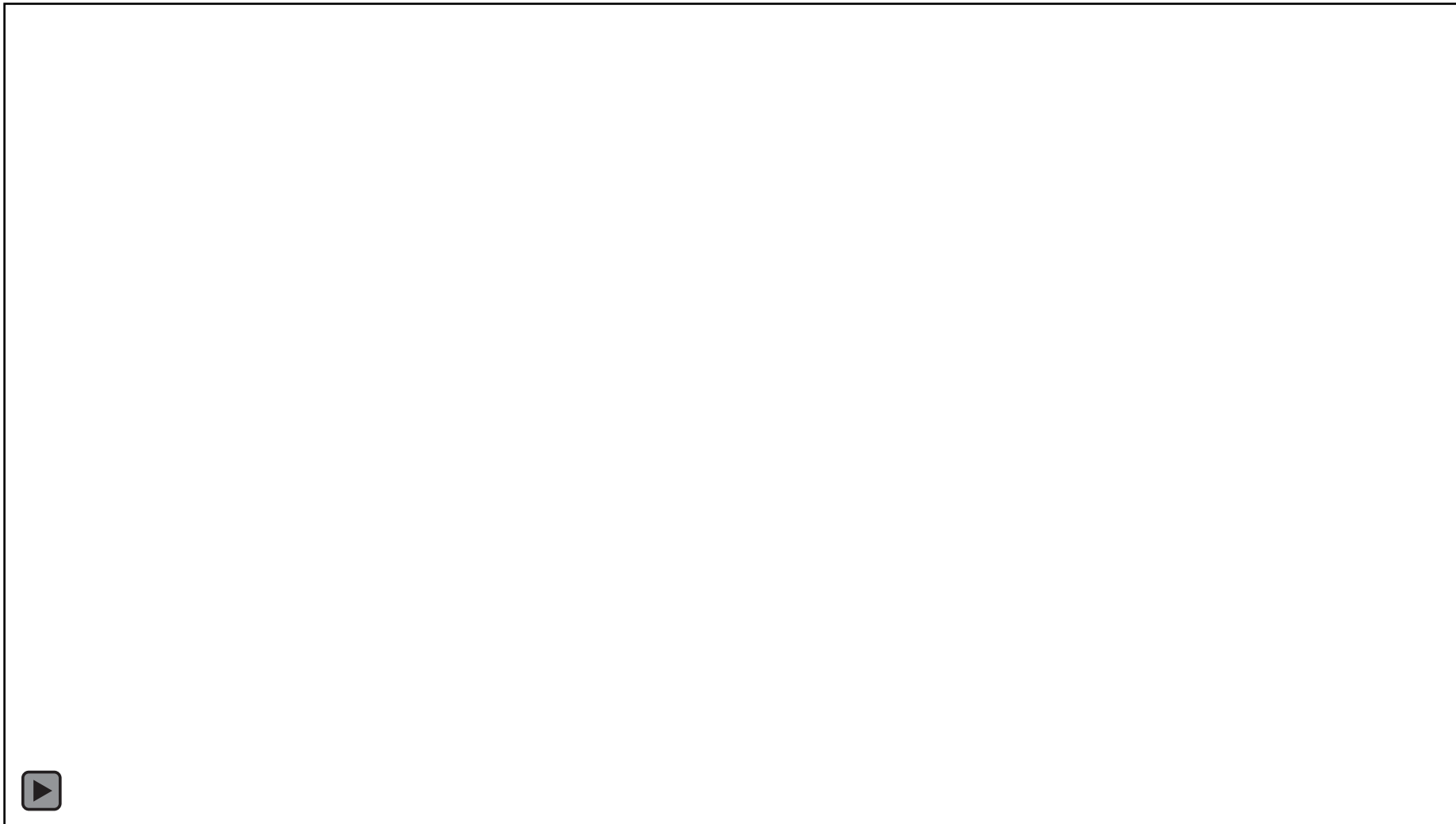
Bomba más pequeña

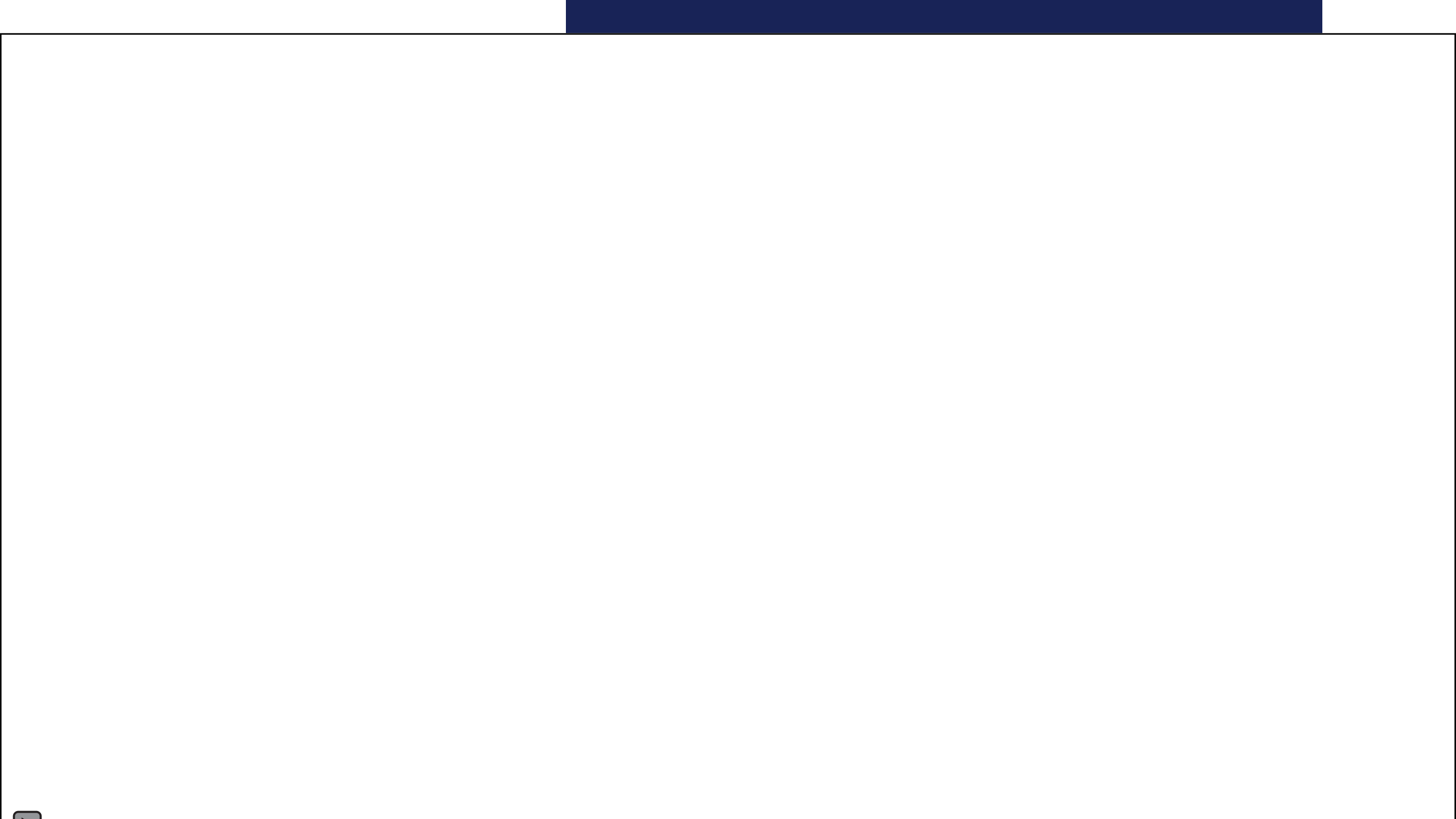
Pulsatilidad intrínseca por curvas presión-flujo planas

Periféricos más pequeños y ligeros

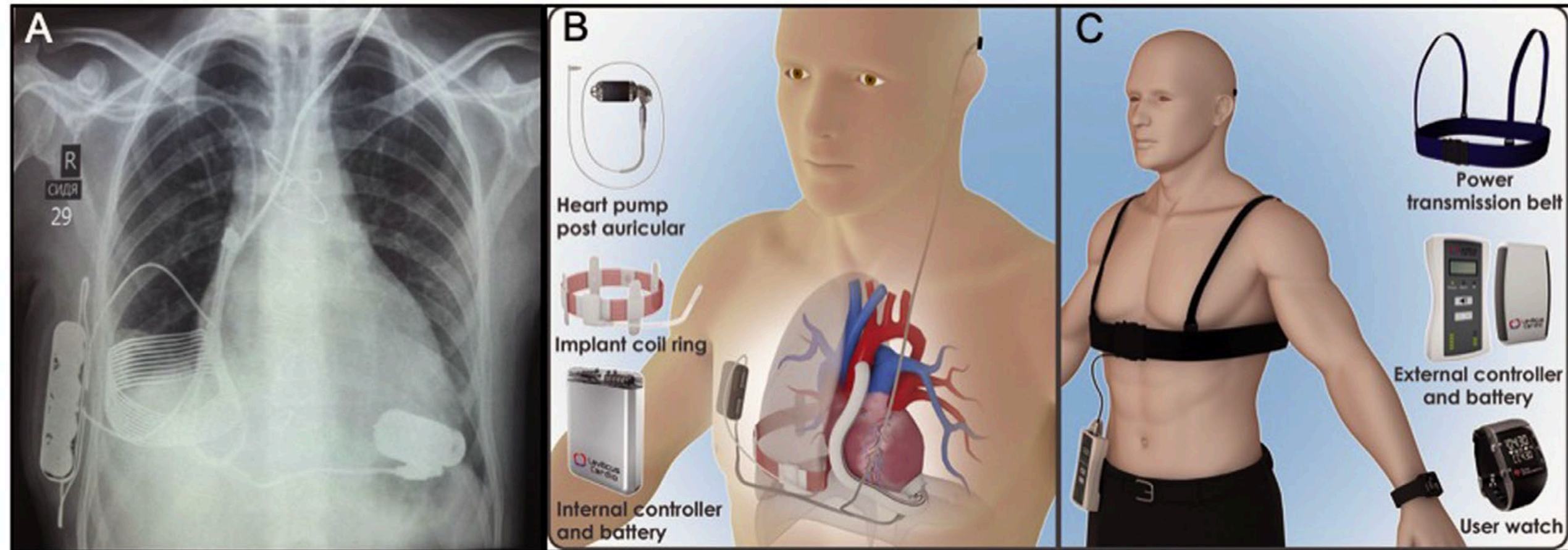
Outflow graft 10 mm (como HVAD)

CorWave Neptune



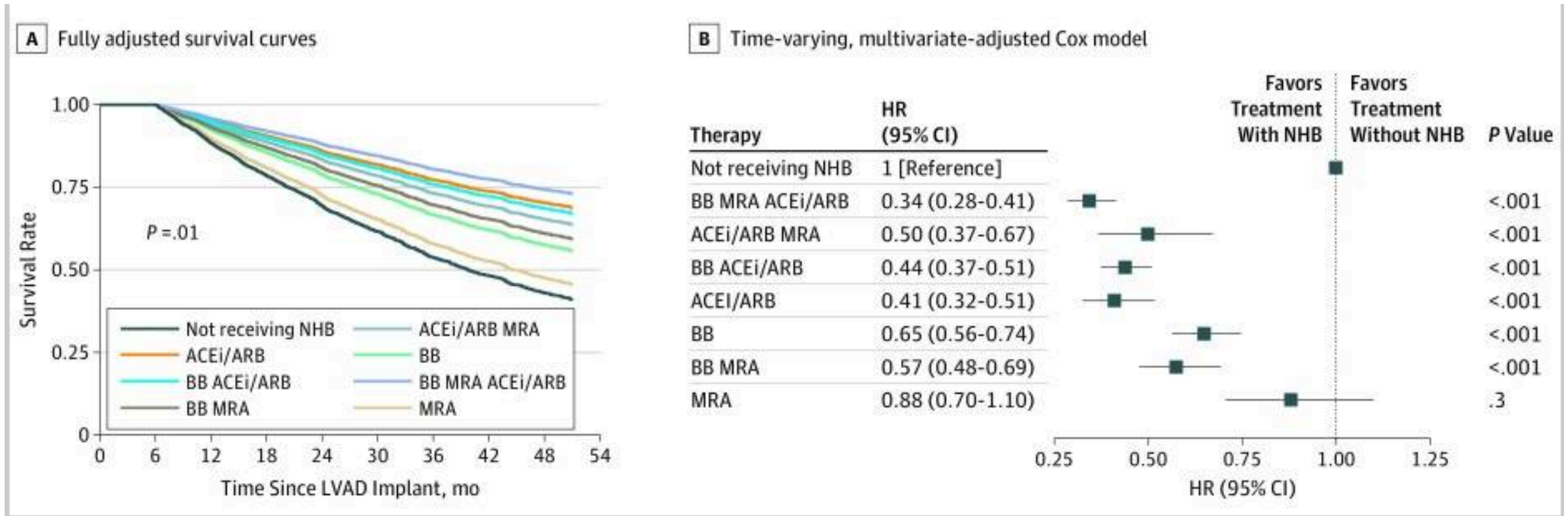


Transcutaneous energy transfer



Pyra Y et al. J Heart Lung Transplant 2019;38:339-343

Effect of neurohormonal Tx after LVAD



McCullough M et al. JAMA Cardiol 2020;5:175-182

Importancia del tratamiento médico con LVAD

Measurement	Before sacubitril-valsartan	After sacubitril-valsartan	p-value
Mean blood pressure (mm Hg)	80 (73.5–92)	75 (70–84.5)	0.03
Flow (liters per minute)	4.05 (3.57–4.52)	4.4 (3.70–4.65)	0.01
Loop diuretic dose			
No	9.1%	45.5%	0.01
Low	72.7%	45.5%	
Medium	18.2%	4.5%	
High	0%	4.5%	
NYHA functional class			
I	14.3%	47.6%	0.002
II	52.4%	47.6%	
III	33.3%	4.8%	
CVP (cmH ₂ O)	10 (6.25–10)	7 (5–10)	0.018
NT-proBNP (pg/ml)	3,100 (1,127–4,620)	1,634 (696–2,812)	0.001
GFR (ml/min)	69 (52.25–87)	66.5 (51.5–90)	0.47
Sodium (mEq/liter)	138 (133.75–140)	138 (135.75–140)	0.62
Potassium (mEq/liter)	4.25 (3.98–4.60)	4.25 (4.00–4.81)	0.42
ALT (U/liter)	30 (16–34.5)	22.5 (18.75–29.75)	0.43
Aortic valve opening	63.6%	77.3%	0.08
LVEDD (mm)	61.5 (57.25–68)	58 (53–63.5)	<0.0001
RV basal diameter (mm)	41 (36–44.5)	42.5 (36.5–45.75)	0.40
Mitral regurgitation II–IV	19.1%	5%	0.06
Tricuspid regurgitation II–IV	33.3%	25%	1
Aortic regurgitation II–IV	14.3%	18.2%	1
RVESP (mm Hg)	37 (32.5–39)	35.5 (30.75–39.5)	0.22
Inferior cava diameter (mm)	20 (17.5–21)	16 (14–20)	0.01

Dobarro et al. J Heart Lung Transpl 2020;39:1499-1501

ApixiVAD: Apixaban 2.5 mg/12 h for LVAD

Characteristic	Overall N = 44 ^a	Apixaban group N = 21 ^a	VKA group N = 23 ^a	95% CI	p-value ^b
Follow-up time before end-point (days)	198 (87-261)	207 (88-254)	194 (55-302)	-136 to 97	0.7
End-point reached				-0.4 to 0.79	> 0.9
Transplanted	25 (57%)	12 (57%)	13 (57%)		
No end-point reached	12 (27%)	5 (24%)	7 (30%)		
Outcomes (bleeding, thrombosis, or death)	5 (11%)	3 (14%)	2 (8.7%)		
Completed the follow-up period	2 (4.5%)	1 (4.8%)	1 (4.3%)		
Follow-up time before outcome (days)	147 (140-254)	254 (147-371)	98 (55-140)	-87 to 407	0.13
Outcomes				-0.35 to 3.8	> 0.9
Major bleeding	3 (60%)	2 (67%)	1 (50%)		
Death	1 (20%)	1 (33%)	0 (0%)		
Ischemic and hemorrhagic strokes	1 (20%)	0 (0%)	1 (50%)		
Outcomes (bleeding, thrombosis, or death)	5 (11%)	3 (14%)	2 (8.7%)	-0.42 to 0.77	0.7

Schnegg B et al. J Heart Lung Transplant 2025;44:1331-1338

Clinical case in 2025: 8 years later...79 years old

