Criterios diagnósticos en la práctica clínica de la IC con fracción de eyección preservada

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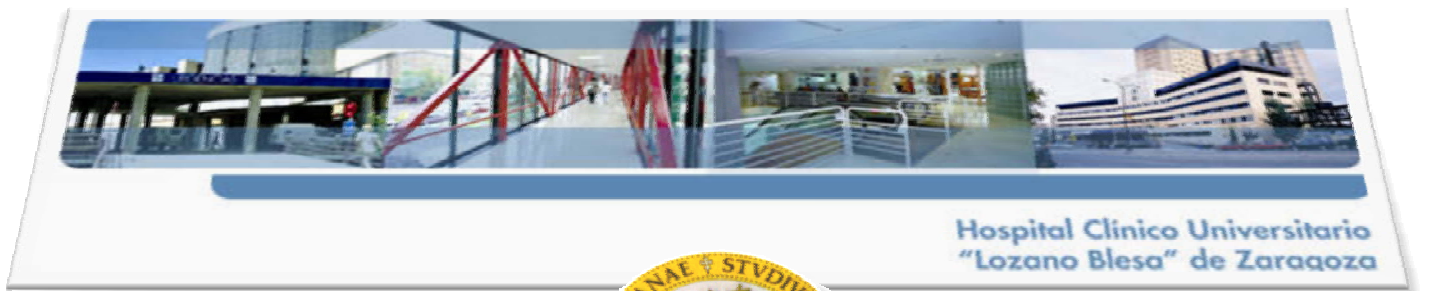

IIS Aragón
Instituto de Investigación Sanitaria Aragón

- **Medición de la FE en los 1970**
- **Concepto de IC “diastólica” 1990**
- **Concepto de IC con FE “preservada” o “normal” 2000**
- **Actualización de criterios diagnósticos ESC 2007**

CRITERIOS DIAGNÓSTICOS EN LA PRÁCTICA CLÍNICA DE LA IC CON FRACCIÓN DE EYECCIÓN PRESERVADA

1. ¿CUÁL ES LA DIFICULTAD?
2. ¿TIENE RELEVANCIA?
3. ¿TIENE SOLUCIÓN?

- **¿CUÁL ES LA DIFICULTAD?**
- **¿TIENE RELEVANCIA?**
- **¿TIENE SOLUCIÓN?**

DIFICULTAD

- **Confusión terminológica**
- **Criterios diagnósticos heterogéneos**
- **Historia natural de la disfunción diastólica**
- **Causas alternativas de disnea**

CRITERIOS DIAGNÓSTICOS HETEROGÉNEOS

Circulation
JOURNAL OF THE AMERICAN HEART ASSOCIATION
American Heart Association. Learn and Live.

- Estudio prospectivo, 63 pacientes
- Sintomatología de IC
- Eco2D *sugestivo* de HVI y FE normal
- Cateterismo: análisis de función diastólica

Conclusión: la medición objetiva de la función diastólica sirve más para confirmar que para establecer el diagnóstico de ICD. El diagnóstico puede hacerse sin medir parámetros de función diastólica.

M Zile et al. Circulation; 2001; 104: 779-82

HISTORIA NATURAL DE LA DISFUNCIÓN DIASTÓLICA

ORIGINAL CONTRIBUTION

Burden of Systolic and Diastolic Ventricular Dysfunction in the Community

Appreciating the Scope of the Heart Failure Epidemic

Margaret M. Redfield, MD

Steven J. Jacobsen, MD, PhD

John C. Burnett, Jr, MD

Douglas W. Mahoney, MS

Kent R. Bailey, PhD

Richard J. Rodeheffer, MD

Context Approximately half of patients with overt congestive heart failure (CHF) have diastolic dysfunction without reduced ejection fraction (EF). Yet, the prevalence of diastolic dysfunction and its relation to systolic dysfunction and CHF in the community remain undefined.

Objectives To determine the prevalence of CHF and preclinical diastolic dysfunction and systolic dysfunction in the community and determine if diastolic dysfunction is predictive of all-cause mortality.

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PREVALENCIA DISFUNCIÓN DIASTÓLICA

Table 1. Prevalence of Systolic and Diastolic Dysfunction According to Age and Sex*

Variables	No. (%) of Patients Affected				
	Age Group, y				
	45-54	55-64	65-74	≥75	Overall
Diastolic Dysfunction					
Mild					
All	27 (4.8)	72 (13.2)	149 (34.2)	123 (52.8)	371 (20.8)
Men	20 (7.2)	43 (16.0)	76 (37.2)	49 (57.0)	188 (22.5)
Women	7 (2.4)	29 (10.4)	73 (31.6)	74 (50.3)	183 (19.4)
Moderate					
All	8 (1.4)	33 (6.0)	43 (9.9)	34 (14.6)	118 (6.6)
Men	5 (1.8)	19 (7.1)	17 (8.3)	15 (17.4)	56 (6.7)
Women	3 (1.0)	14 (5.0)	26 (11.3)	19 (12.9)	62 (6.6)
Severe					
All	0 (0)	2 (0.4)	3 (0.7)	8 (3.4)	13 (0.7)
Men	0 (0)	0 (0)	2 (1.0)	3 (3.5)	5 (0.6)
Women	0 (0)	2 (0.7)	1 (0.4)	5 (3.4)	8 (0.8)
Systolic Dysfunction					
Any, ejection fraction ≤50%					
All	18 (3.0)	30 (4.8)	37 (7.1)	38 (12.9)	123 (6.0)
Men	15 (5.1)	23 (7.4)	27 (10.6)	26 (22.8)	91 (10.2)
Women	3 (1.0)	7 (2.2)	10 (3.8)	12 (6.6)	32 (3.8)
Moderate to severe, ejection fraction ≤40%					
All	5 (0.8)	8 (1.3)	14 (2.7)	13 (4.4)	40 (2.0)
Men	5 (1.7)	6 (1.9)	12 (4.7)	9 (7.9)	32 (3.6)
Women	0 (0.0)	2 (0.6)	2 (0.8)	4 (2.2)	8 (1.0)

*A total of 1799 participants were classified as having normal diastolic function or as having mild, moderate, or severe diastolic dysfunction with 243 classified as indeterminate. Ejection fraction was assessed in 2036 participants.

29%

71%

M Redfield, et al. JAMA 2003; 289: 194-202

ETIOLOGÍA DE LA DISNEA

Shortness of breath and LVEF >50%

Cardiac causes	Non-cardiac causes

• **HFNEF**
• **Other Cardiac Entities**
  • Coronary artery disease
  • Valvular heart disease
  • HOCM
  • Restrictive CMP
  • Constrictive pericarditis
  • Intracardiac shunt
	• Lung disease
	• Obesity
	• Deconditioning
	• Anemia
	• Hyperventilation
	• Thyrotoxicosis
	• PAHT
	• Extracardiac shunt

L Caruana, et al. BMJ. 2000; 321: 215-218
P Banerjee, et al. Eur J Heart Fail. 2004; 6: 427-431
MT Maeder, et al. JACC. 2009; 53: 905-918

- ¿CUÁL ES LA DIFICULTAD?
- **¿TIENE RELEVANCIA?**
- ¿TIENE SOLUCIÓN?

PERCEPCIÓN DE SÍNTOMAS

Perception of symptoms is out of proportion to cardiac pathology in patients with "diastolic heart failure".

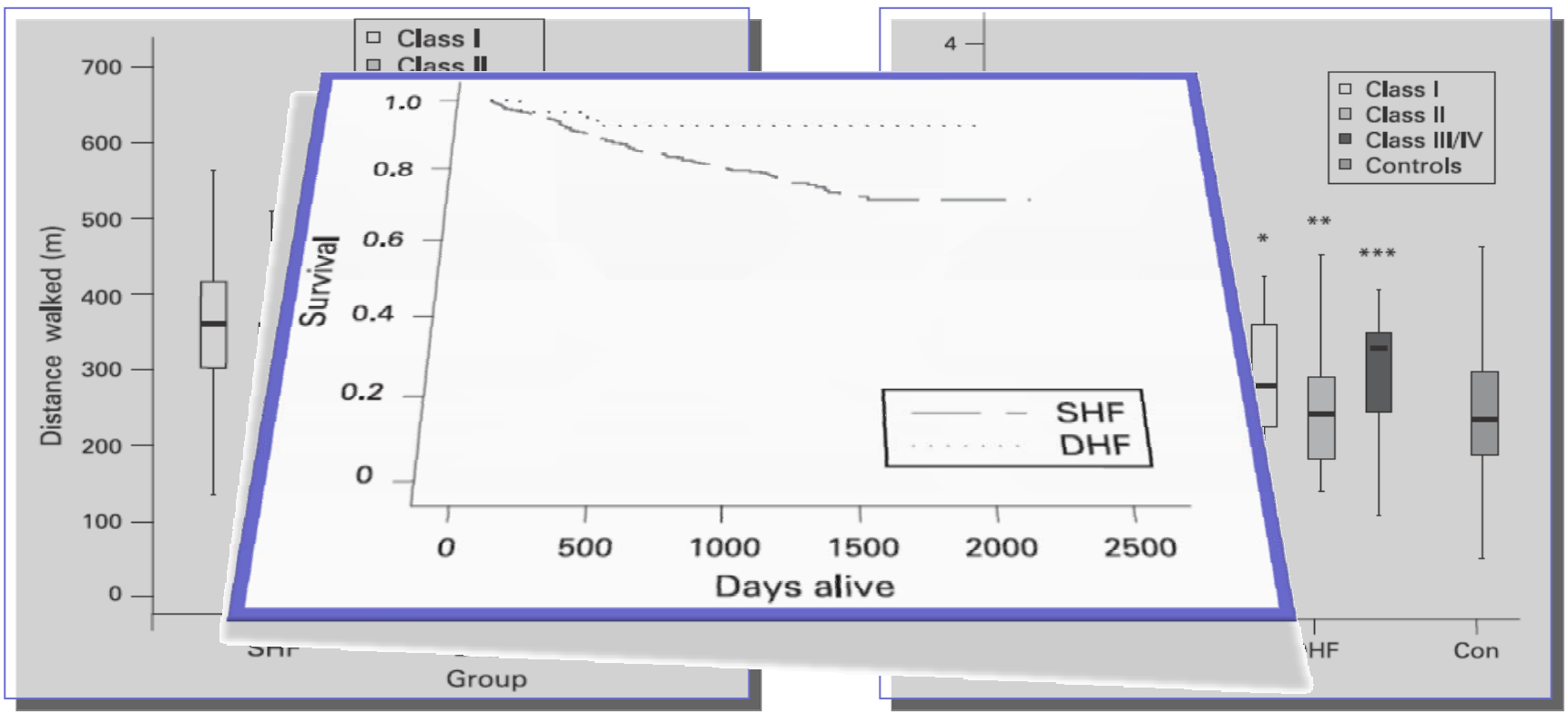
[1]Lee Ingle, PhD; [2]John GF Cleland, MD; [2*]Andrew L Clark, MD

568 pacientes *diagnosticados de* ICS
104 pacientes *diagnosticados de* ICD
400 controles sanos

ECOCARDIOGRAMA
6MWT
NT-proBNP

L Ingle, et al. Heart. 2008;94: 748-53

6 MWT **NT pro BNP**



L Ingle, et al. Heart. 2008;94: 748-53

- ¿CUÁL ES LA DIFICULTAD?
- ¿TIENE RELEVANCIA?
- **¿TIENE SOLUCIÓN?**

SOLUCIÓN

Special article

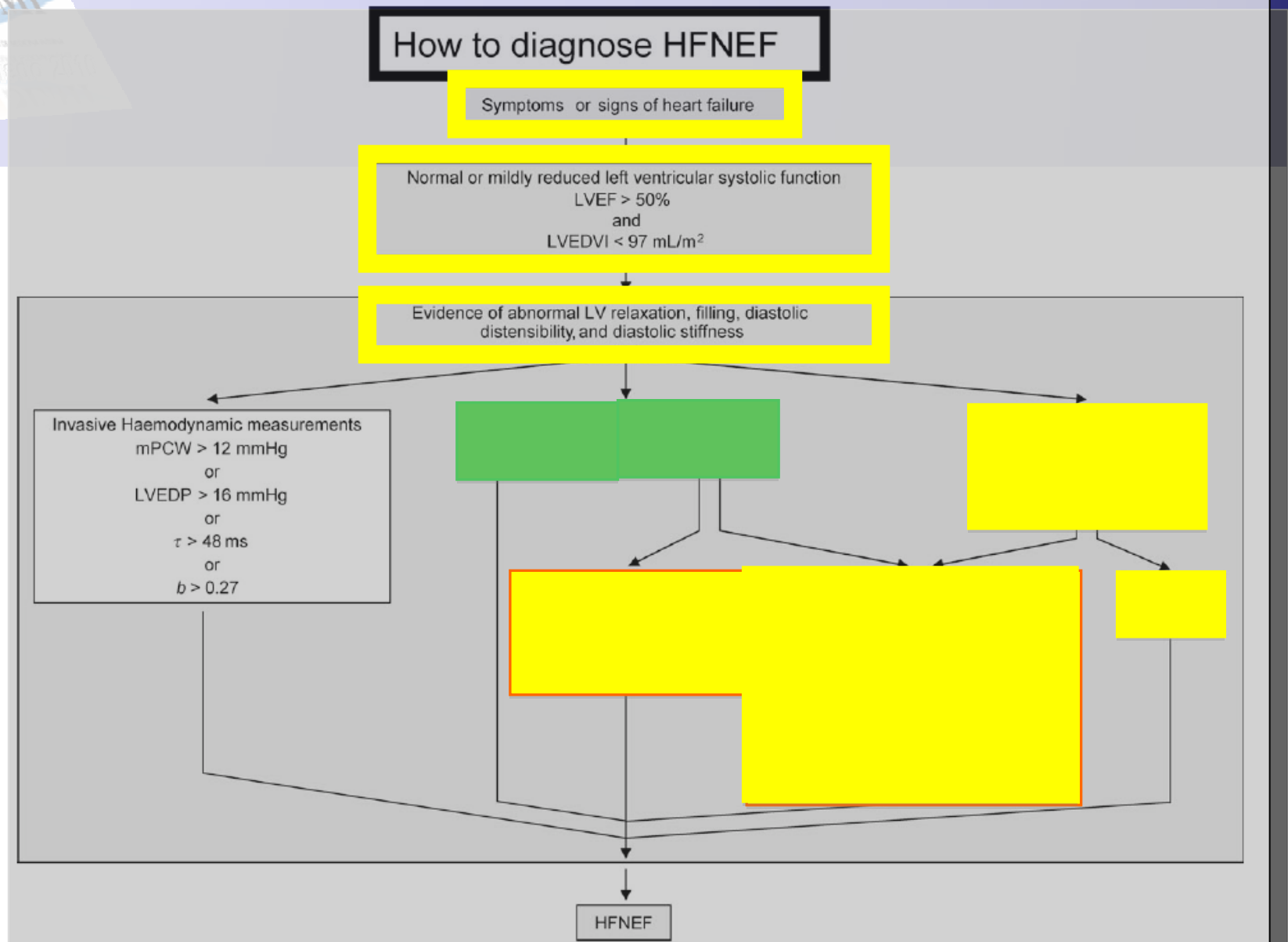
European Heart Journal (2007) 28, 2539–2550
doi:10.1093/eurheartj/ehm037

EUROPEAN SOCIETY OF CARDIOLOGY®

How to diagnose diastolic heart failure: a consensus statement on the diagnosis of heart failure with normal left ventricular ejection fraction by the Heart Failure and Echocardiography Associations of the European Society of Cardiology

Walter J. Paulus[1*], Carsten Tschöpe[2], John E. Sanderson[3], Cesare Rusconi[4], Frank A. Flachskampf[5], Frank E. Rademakers[6], Paolo Marino[7], Otto A. Smiseth[8], Gilles De Keulenaer[9], Adelino F. Leite-Moreira[10], Attila Borbély[11], István Édes[11], Martin Louis Handoko[1], Stephane Heymans[12], Natalia Pezzali[4]. Burkert Pieske[13]. Kenneth Dickstein[14]. Alan G. Fraser[15]. and Dirk L. Brutsaert[9]

WJ Paulus, et al. Eur Heart J. 2007: 28: 2539-2550



WJ Paulus, et al. Eur Heart J. 2007: 28: 2539-2550

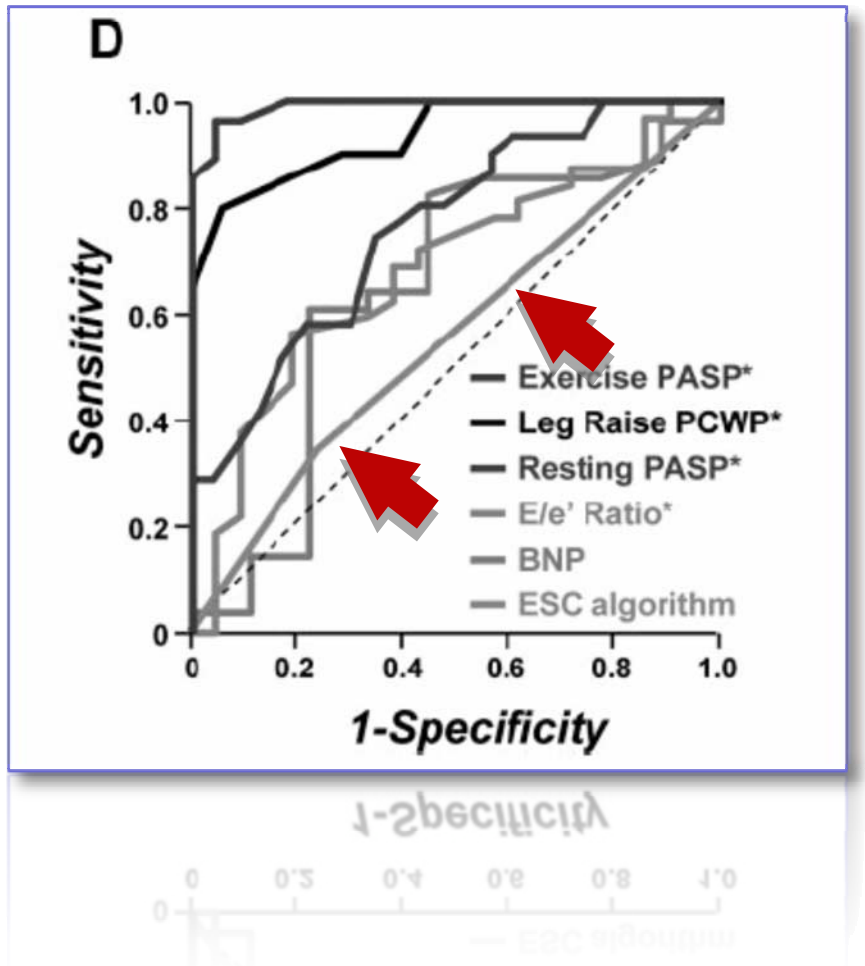
Table 1. Baseline Characteristics

Characteristic	NCD (n=23)	HFpEF (n=32)	*P*
Age, y	47±17	65±13	<0.001
Female sex, %	65	72	0.6
White race, %	100	91	0.3
Body mass index, kg/m^2	27.3±5.5	32.0±5.9	0.004
Obesity, %	40	56	0.2
Hypertension, %	57	72	0.2
Diabetes, %	22	16	0.6
Atrial fibrillation, %	9	6	0.7
NYHA class II/III	20/3	27/5	0.8
Glomerular filtration rate, mL/min	95±36	86±31	0.3
BNP, pg/mL	49±54	71±49	0.3
NT-proBNP, pg/mL	38±22*	104±62†	0.07
Hemoglobin, g/dL	13.2±1.5	13.6±1.2	0.3
β-blockers, %	35	44	0.5
ACEI or ARB, %	30	38	0.6
Diuretic, %	35	53	0.18

ACEI indicates angiotensin-converting enzyme inhibitor; ARB, angiotensin receptor blocker; NT-proBNP, N-terminal prohormone BNP.

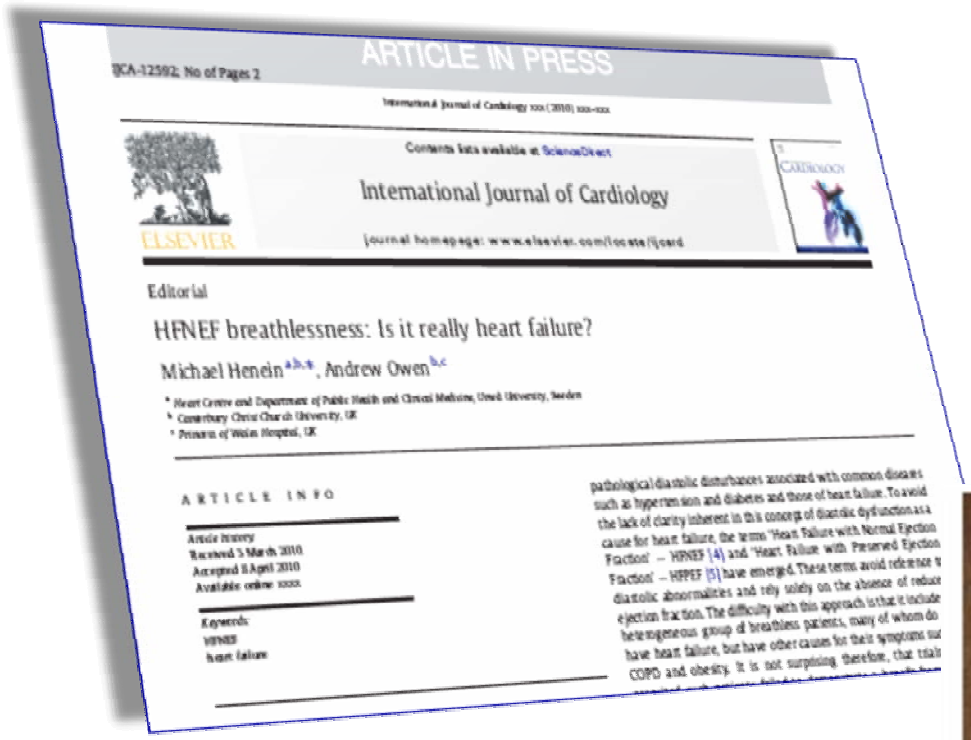
*n=4.

†n=7.



BA Borlaug, et al. Circ Heart Fail. 2010: 3: 588-95

PROPUESTA



ARTICLE IN PRESS

IJCA-12592; No of Pages 2

International Journal of Cardiology

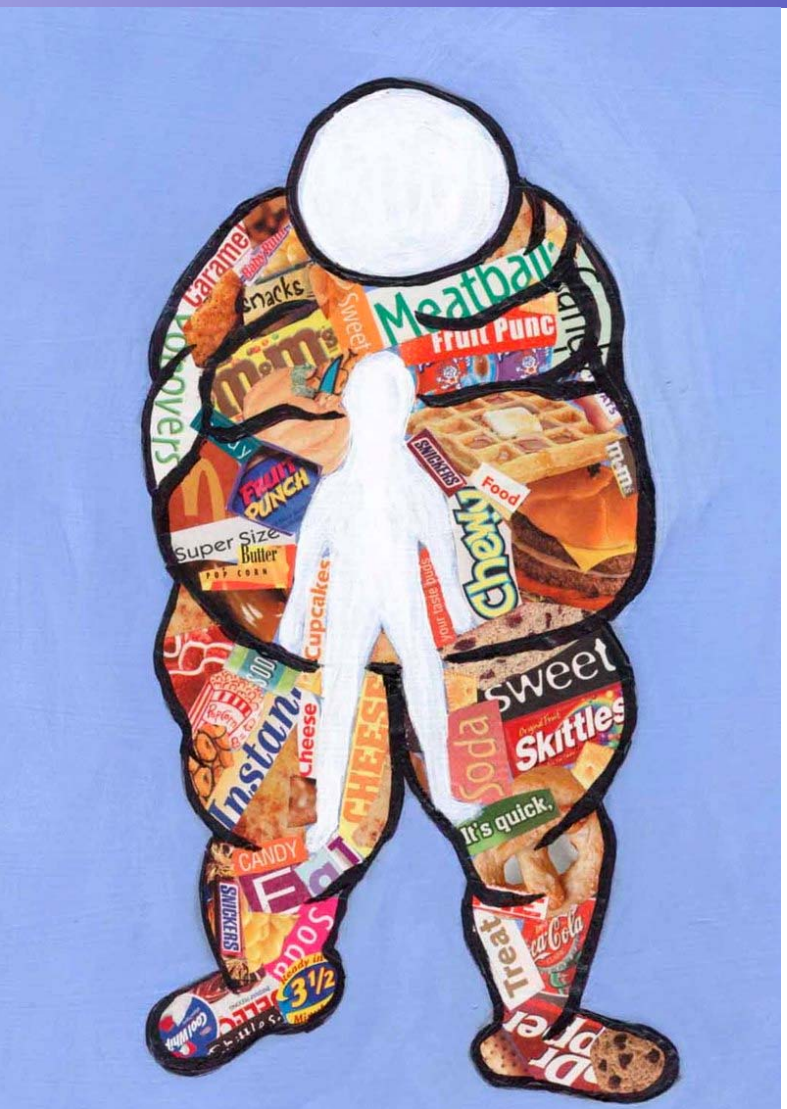
Editorial

HFNEF breathlessness: Is it really heart failure?

Michael Henein, Andrew Owen

ARTICLE INFO

M … 3: 111-112



"EXIT" syndrome

DW Kitzman, et al. Heart Fail Clin. 2008: 4: 99-115
M Henein, et al. Int J Cardiol. 2010: 143: 111-112

PROPUESTA

INSUFICIENCIA CARDIACA

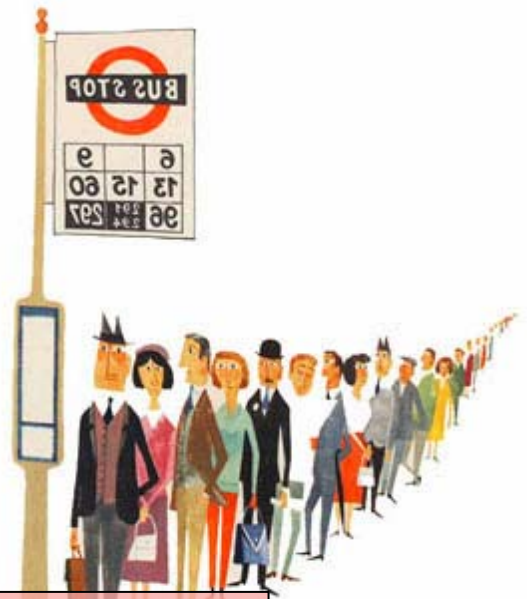
IC CON FE DEPRIMIDA
50%

IC CON FE PRESERVADA
50%

IC CON
DISFUNCIÓN

DIASTÓLICA

"EXIT"
COMORBILIDAD
Y
DISFUNCIÓN *VASCULAR*



DA Kass. Circ Res; 2004;94: 1533-42
DA Kass. J Card Fail; 2005; 11: 188-90

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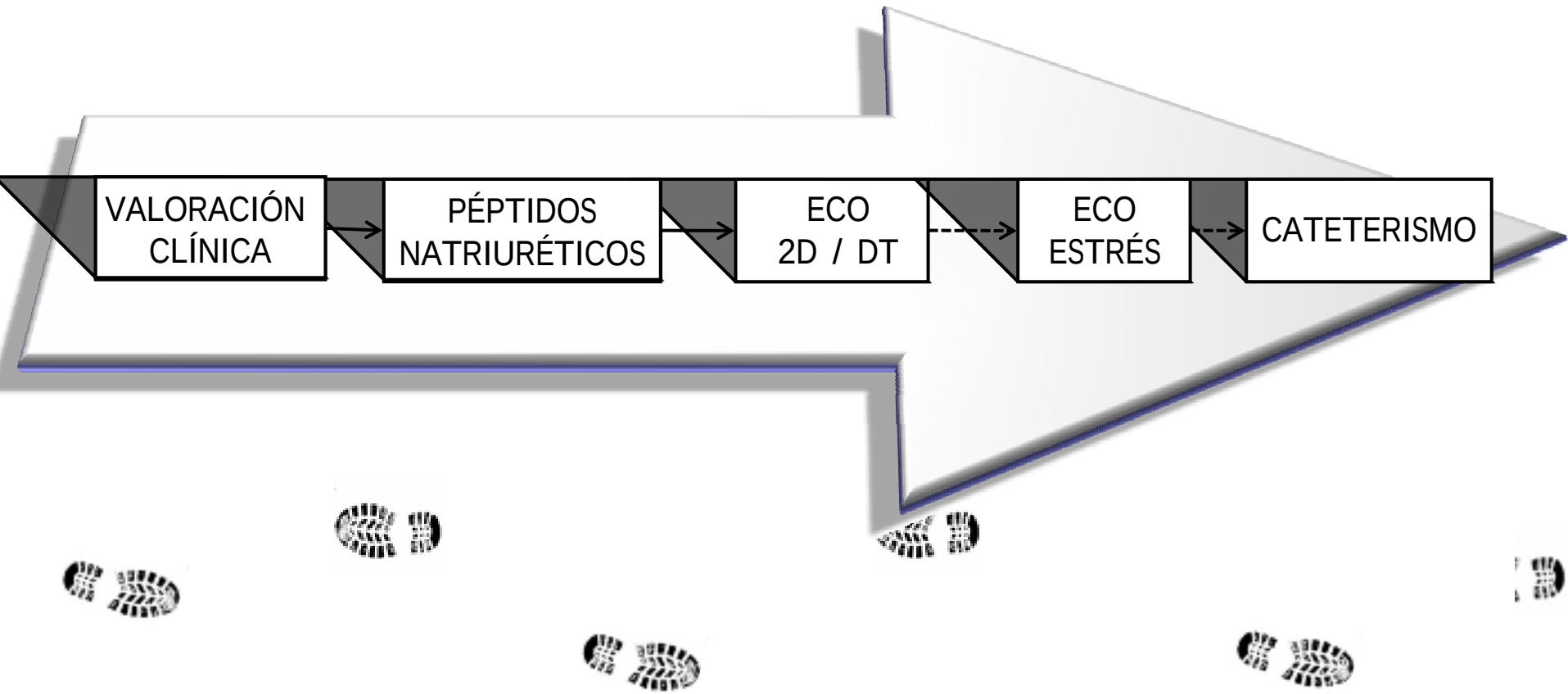
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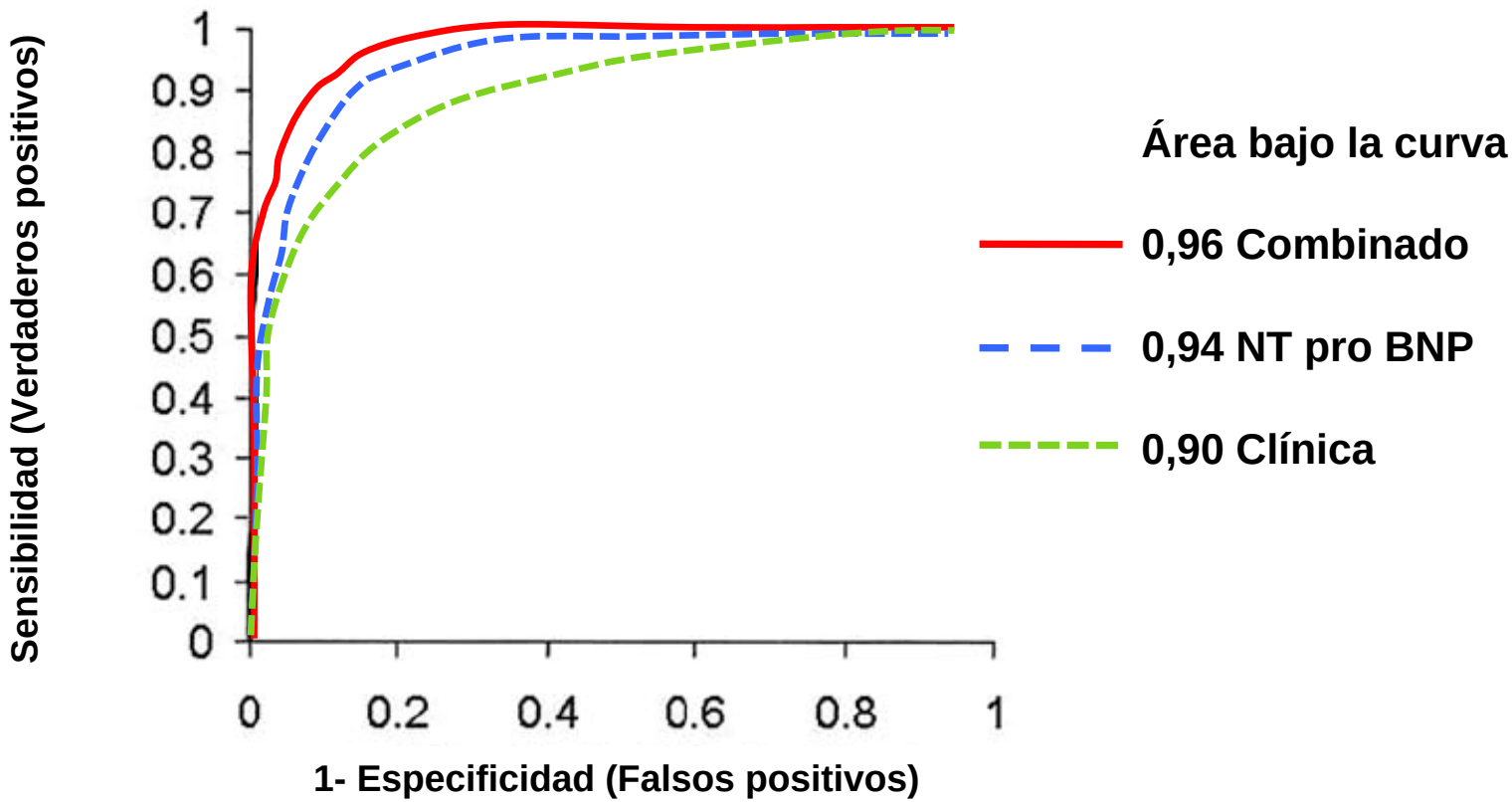
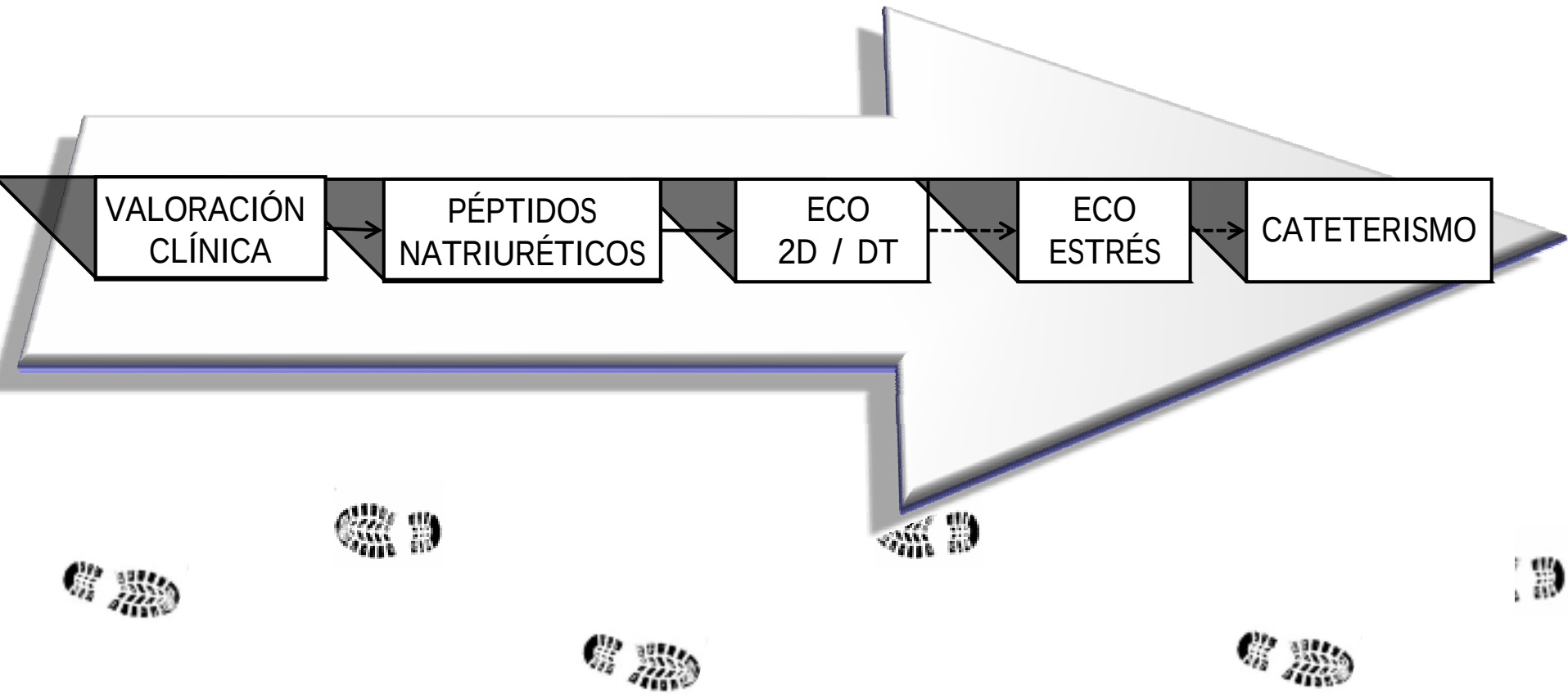
ECO 2D / DT
ECO ESTRÉS
CATETERISMO

PRIDE STUDY



J Januzzi, et al. Am J Cardiol. 2005;95: 948-54

PROPUESTA


VALORACIÓN CLÍNICA
PÉPTIDOS NATRIURÉTICOS
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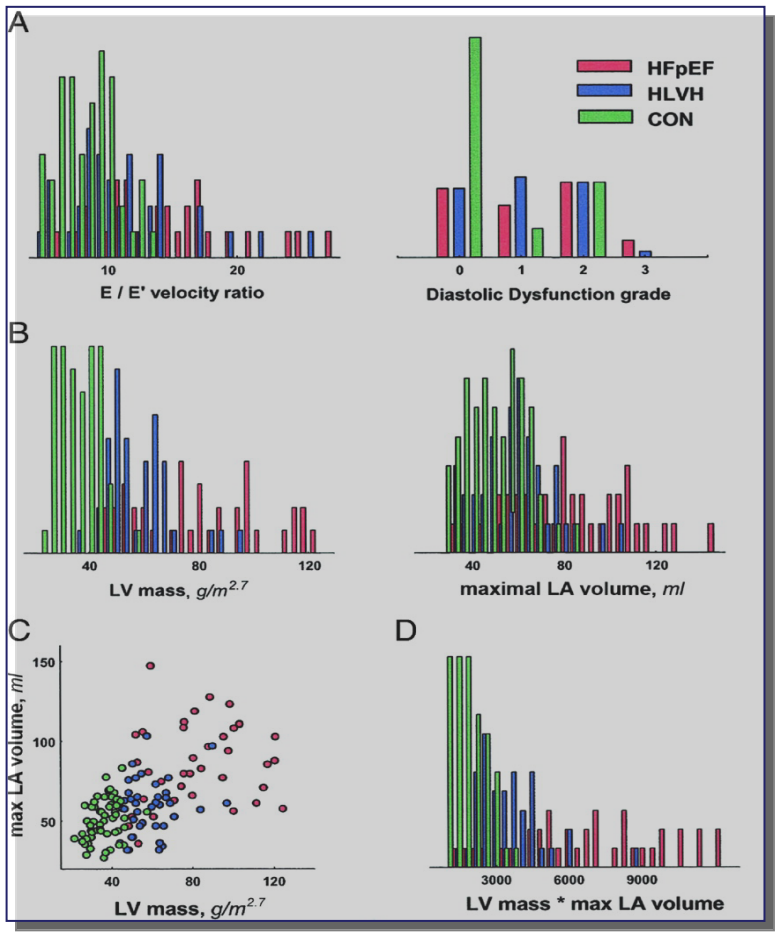
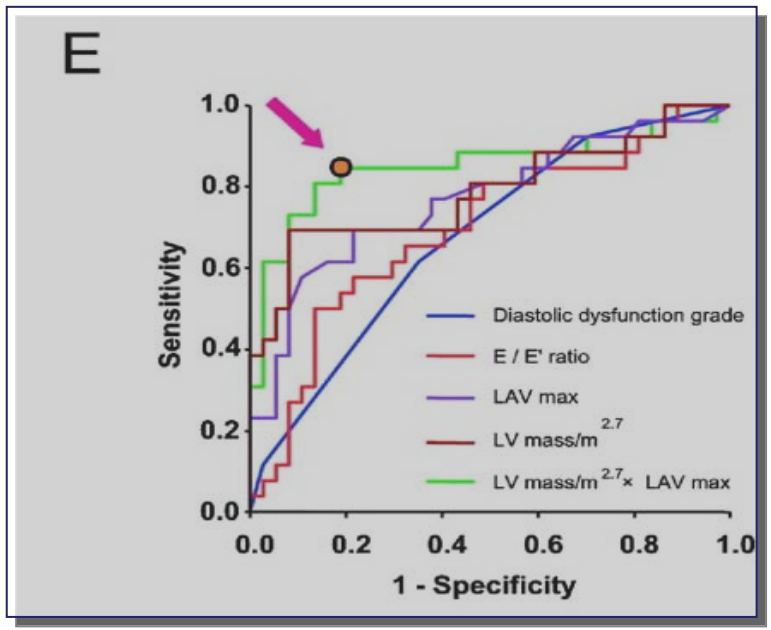
ECO ESTRÉS
CATETERISMO

Masa de VI y Volumen auricular definen mejor la IC-FSP que los índices de Disfunción Diastólica





HFpEF	37
HLVH	40
CON	56

Melenovsky, V. et al. JACC 2007;49:198-207

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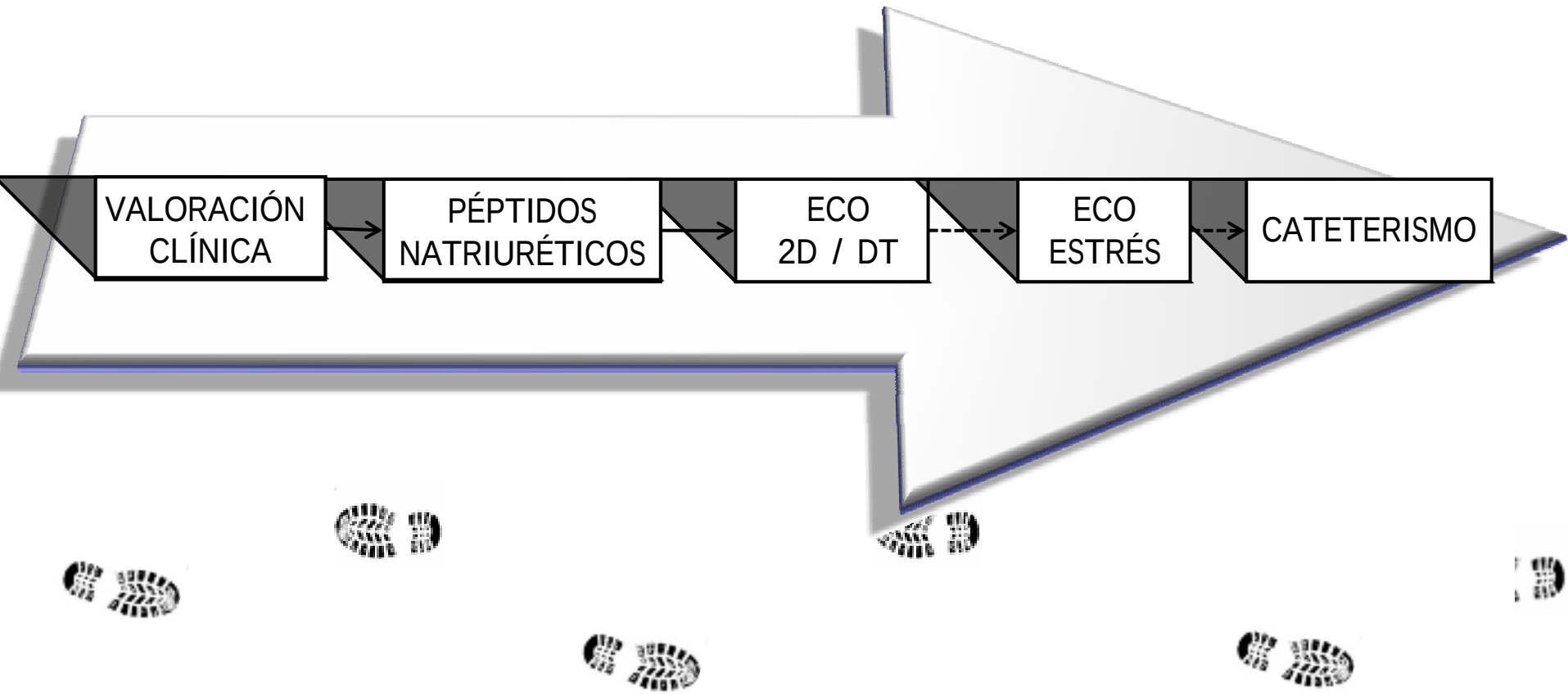
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ECO ESTRÉS
CATETERISMO

ECO ESTRESS

OBSTRUCCIÓN TS → HIPERTROFIA SEPTAL BASAL

DETERIORO FS → ENF CORONARIA EXTENSA

HT PULMONAR → ENFERMEDAD PULMONAR

M Henein, et al. Int J Cardiol. 2010: 143: 111-112

MUCHAS GRACIAS