

HFpEF score discriminates severity of cardiovascular profile in asymptomatic treated hypertensive patients: the campania salute network

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Background: The heart failure with preserved ejection fraction (HFpEF) score is easy to use and potentially useful to discriminate HFpEF from noncardiac causes of dyspnea. HFpEF score may be expressed also as probability to have HFpEF.

Purpose: We investigated whether a high HFpEF score can identify specific cardiovascular (CV) profile in treated hypertensive patients even without dyspnea.

Methods: From September to December 2019, we consecutively enrolled treated hypertensive patients without dyspnea, with normal left ventricular (LV) ejection fraction (>50%), and chronic kidney disease of no more than stage III. In addition to standard echocardiographic parameters we evaluated: 1) inappropriate LV mass, identified as a percent of predicted LV mass >128%, 2) myocardial energetic efficiency as the ratio of stroke

volume to heart rate normalized by LV mass (MEEi), and 3) an estimate of arterial stiffness, i.e. the ratio of pulse pressure and stroke index (by allometric normalization by height), as previously reported. The probability of HFpEF was calculated from the HFpEF score, using body mass index, pulmonary systolic pressure, mitral E/E' ratio, age, and history or evidence of atrial fibrillation.

Results: 188 patients with complete data were analyzed (42% women, age 61±14 years, 9% diabetic). Patients were then divided into 3 groups according to HFpEF probability tertiles and compared by ANOVA and trend analysis (Table 1).

Conclusions: Probability of HFpEF using HFpEF score and non-standard echocardiographic parameters identify worse CV profile in treated hypertensive patients without dyspnea.

Table 1

Variable	HFpEF probability			p
	0–29 (N=62)	30–50% (N=64)	>50% (N=62)	
Female sex (%)	40	31	55	0.026
Diabetes (%)	0	14	13	0.011
EPI_GFR (ml/min/1.73m ²)	87±14	75±15	74±12	<0.0001
Diastolic BP (mmHg)	83±9	80±12	76±9.0	0.001
Pulse pressure (mmHg)	51±11	57±13	60±18	0.003
LV mass index (g/m ^{2.7})	39±8	43±9	49±10	<0.0001
Inappropriate LV mass (%)	19	34	53	<0.0001
Relative wall thickness	0.40±0.05	0.41±0.05	0.42±0.04	0.031
MEEi (ml/sec.g ⁻¹)	0.38±0.07	0.36±0.08	0.35±0.07	0.045
N of anti-hypertensive drugs	1.9±0.8	2.3±1.4	2.6±1.1	0.003