

inflammatory adipocytokine chemerin, that has been extensively associated with inflammation and cardiovascular diseases, in patients with heart failure in order to study the possible correlations between this hormone and body composition in those patients.

Methods: We made a selection of 60 patients from the Cardiology Service in the Clinical Hospital of Santiago de Compostela which had depressed ejection fraction, a Gallagher Nutritional Index of 3 and an average age of 68 years old (81.7% males). Patient's body composition was measured using dual energy X-ray absorptiometry (DEXA). These patients were classified in four groups according to their lean mass (low <18.7 kg/m² in men and <14.9 kg/m² in women; medium 18.7 to 21 kg/m² in men and 14.9 to 17.2 kg/m² in women and high >21 kg/m² in men and >17.2 kg/m² in women) and fat mass (low fat mass ≤25% in men and ≤35% in women; high fat mass >25% in men and >35% in women): low lean mass/ low body fat; low lean mass/ high body fat; high lean mass/ low body fat and high lean mass / high body fat (Lavie et al., 2012). Each variable was analysed using the statistics program SPSS and the Mann-Whitney U test.

Results: We have found a statistically significant reduction of the chemerin plasma levels in high lean mass patients (p=0.044) compared with those with low lean mass. To note, those high lean mass patients showed also increased BMI (p=0.000), fat mass amount (p=0.008) and visceral fat amount (p=0.049) than low lean mass patients. No other statistically significant differences were found between those two groups.

Conclusion: The proinflammatory adipocytokine chemerin is negatively correlated with the lean mass amount in patients with heart failure. Our results suggest that the amount of lean mass could be determinant of the inflammatory status in heart failure patients, independently of the fat mass amount. amount in patients with heart failure. Our results suggest that the amount of lean mass could be determinant of the inflammatory status in heart failure patients, independently of the fat mass amount.

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Predictive value of ve/vco2 slope in discovering hfpef during combined cardiopulmonary/stress-echocardiography testing in patients with hypertension and normal systolic and diastolic function at rest

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Background/Aim: Heart failure with preserved ejection fraction (HFpEF) is often associated with hypertension (HTA). Exercise stress-echocardiography (ESE) and cardiopulmonary exercise-testing (CPET) appear to be useful in assessment of HFpEF and in discovering masked HFpEF. However, the prognostic role of individual parameters in identifying latent HFpEF during combined ESE-CPET in hypertensive patients with normal systolic and diastolic function at rest has not been extensively studied.

Method: 101 patients underwent combined ESE-CPET testing (supine bicycle, Ramp 15 protocol, 15W/min with 3min of unloaded pedaling). Echocardiography measurements were performed at rest and at peak load. The E/E' > 15 at peak exercise was a marker for latent HFpEF.

Results: The mean age was 55.9 years, 62 males (61.38%). Increase in E/E' > 15 during ESE-CPET occurred in 10 patients (9.9%). Those patients also had lower peak VO₂ (14.67 vs 20.39; p=0.005), lower workload (123 vs 159W, p=0.01), and higher VE/VCO₂ slope (35.25 vs 26.55, p<0.001). Multivariate logistic regression analysis showed that VE/VCO₂ slope was the best predictor in identifying masked HFpEF (B 3.447, p=0.021, OR 31.412, CI95% 1.689–584.072). ROC curve demonstrated that the VE/VCO₂ slope cut-off value of 32.90 had maximal sensitivity and very good specificity in discovering latent/masked HFpEF, figure 1.

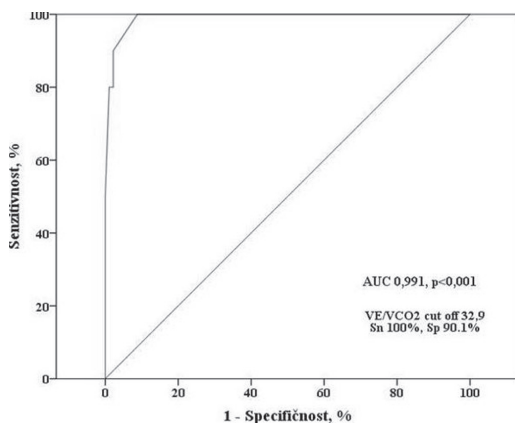


Figure 1

Conclusion: Combined ESE-CPET testing is reliable and useful tool in discovering masked HFpEF. Ventilatory efficiency is the best parameter in discovering latent HFpEF in patients with HTA and normal LV systolic and diastolic function at rest.

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Getting a grip on heart failure: the nexus between multimorbidity, physical frailty and 12-month mortality in 765 patients hospitalised with heart failure

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Background: In an increasingly ageing patient population, multimorbidity and physical frailty in those hospitalised with chronic heart failure (CHF) represent potentially important contributors to all-cause 12 month mortality.

Purpose: To characterise the pattern of the ten most common forms of multimorbidity and physical frailty in relation to 12-month mortality in a high-risk cohort of patients hospitalized with CHF.

Methods: A prospective analysis was conducted on data collected on 765 CHF participants at baseline in a large CHF management multicentre randomised control trial. Participants received a minimum of 12 months follow up to determine all-cause mortality. The analysis was conducted using handgrip strength and multimorbidity being the 10 most common concurrent conditions in CHF. We identified frailty according to the lowest quintile of handgrip strength with the highest quintile of handgrip strength.

Results: The mean age was 74±12 years (42% female), with left ventricular systolic dysfunction (65%), and NYHA Class III/IV (28%). Overall, there is a linear trend for the majority of the 10 comorbidities across the quintile handgrip strength. Patients with the lowest handgrip strength had the highest prevalence of anaemia (81% in the lowest handgrip strength quintile vs 23% in the highest grip strength quintile), cognitive impairment (63% vs 51%) and depression/anxiety (78% vs 69%). The 12-month mortality was 22% in males and 17% in females. There was a downward trend in handgrip strength and 12-month mortality in males, at 33%, 23%, 24%, 18% and 14% for quintile groups 1, 2, 3, 4 and 5 respectively (P=0.007). There was no trend in females (P=0.749). After adjustment for age and the 10 CHF comorbidities, multivariate logistic regression analysis showed that handgrip strength had a significant impact on 12-month mortality in males independent of age (P=0.020), but not in females (P=0.114).

Conclusion: Physical frailty measured by handgrip strength is a promising predictor of 12-month mortality in men with CHF, independent of age and the common comorbidities associated with CHF. Further research is needed to identify determinants of muscular strength in CHF patients, and to test whether improvement in strength reduces mortality.

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Left ventricular assist devices as a bridge to candidacy in severe heart failure with secondary pulmonary hypertension

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Purpose: Elevated pulmonary artery pressure (PAP), transpulmonary gradient (TPG) and pulmonary vascular resistance (PVR) are risk factors for poor outcomes after heart transplantation in patients with secondary pulmonary hypertension (PH) and may contraindicate transplantation. Unloading of the left ventricle with an implantable left ventricular assist device (LVAD) may reverse these pulmonary vascular changes. We studied the effect of implanting LVADs in a cohort of patients with secondary PH as a bridge to candidacy.

Methods: Pulmonary haemodynamics on patients implanted with LVADs at a single unit between December 2003 and April 2015 were retrospectively reviewed.

Results: Thirty-five patients were implanted with LVADs. Seven were ineligible for transplant by virtue of high TPG/PVR. All the patients were optimized with inotropes/balloon pump followed by LVAD insertion. Four required temporary right VAD support. Thirty-day mortality post-LVAD was 3.4% with a 1-year survival of 85.7%. Twenty patients have been transplanted to date: 30-day mortality was 7.7% (1 of 13) and 1-year survival was 91% (10 of 11). Baseline and post-VAD pulmonary haemodynamics were significantly improved: systolic PAP (mmHg), mean PAP, TPG (mmHg) of 57±9.5, 42±4.4 and 14±3.9 reduced to 32±7.5, 18±5.5 and 9±3.3, respectively. PVR reduced from 5±1.5 to 2.1±0.5 Wood units (P<0.05).

Conclusion: In selected heart failure patients with secondary PH, use of LVAD results in significant reductions in PAP, TPG and PVR, which are observed within 1 month, reaching a nadir by 3 months. Such patients bridged to candidacy have post-transplant survival comparable with those having a heart transplant as primary treatment.

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Precipitating factors leading to hospitalization and subsequent clinical outcomes in acute decompensated heart failure

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Background: There are few data examining the factors identified as contributing to heart failure (HF) hospitalization. We evaluated the frequency of clinical factors leading to admission for heart failure and the association between precipitating factors and subsequent outcomes.