Galectin-3 is a marker of myocardial fibrosis and mediates aldosterone-induced cardiovascular inflammation and fibrosis. Characteristics of galectin-3 and its response to spironolactone have not been evaluated in heart failure with preserved ejection fraction (HFpEF). The aim of this study was to determine the association between galectin-3 levels and patient characteristics in HFpEF; to evaluate the interaction between spironolactone and galectin-3 levels; and to assess the association between galectin-3 and clinical outcomes. Aldo-DHF investigated spironolactone 25 mg once daily vs. placebo for 12 months in patients with NYHA class II-III, LVEF >=50%, grade >= I diastolic dysfunction, and peakVO2 <= 25 mL/kg/min. Galectin-3 levels were obtained at baseline, and at 6 and 12 months. The association between baseline galectin-3, change in galectin-3, and all-cause death or hospitalization was evaluated, and the interaction between galectin-3 and treatment was assessed. Median baseline galectin-3 was 12.1 ng/mL. After multivariable adjustment, baseline galectin-3 inversely correlated with peak VO2 (P = 0.021), 6 min walk distance (P = 0.002), and Short Form 36 (SF-36) physical...
functioning (P = 0.001), and directly correlated with NYHA class (P = 0.007). Baseline NT-proBNP correlated with E/e' velocity ratio (P <= 0.001), left atrial volume index (P < 0.001), and LV mass index (P = 0.009). Increasing galectin-3 at 6 or 12 months was associated with all-cause death or hospitalization independent of treatment arm [hazard ratio (HR) 3.319, 95% confidence interval (CI) 1.214-9.07, P = 0.019] and NT-proBNP (HR 3.127, 95% CI 1.144-8.549, P = 0.026). Spironolactone did not influence galectin-3 levels. Galectin-3 levels are modestly elevated in patients with stable HFpEF and relate to functional performance and quality of life. Increasing galectin-3 was associated with worse outcome, independent of treatment or NT-proBNP.