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Titel des Beitrags:
Differential interaction of clinical characteristics with key functional parameters in heart failure with preserved ejection fraction - results of the Aldo-DHF trial.

Abstract:
To investigate the interaction of clinical characteristics with disease characterising parameters in heart failure with preserved ejection fraction (HFP EF). Methods and results In the multicenter, randomized, placebo-controlled, double-blinded, Aldo-DHF trial investigating the effects of spironolactone on exercise capacity (peakVO2) and diastolic function (E/e') n=422 patients with HFP EF (age 67 ± 8 years, 52% females, LVEF 67 ± 8%) were included. After multiple adjustment, higher age was significantly related to reduced peakVO2, and to increased E/e', NT-proBNP, LAVI as well as LVMI (all p<0.05). Female gender (p<0.001), CAD (p=0.002), BMI (p<0.001), sleep apnoea (p=0.02), and chronotropic incompetence (CI, p=0.002) were related to lower peakVO2 values. Higher pulse pressure (p=0.04), lower heart rates (p=0.03), CI (p=0.03) and beta-blocker treatment (p=0.001) were associated with higher E/e'. BMI correlated inversely (p=0.03), whereas atrial fibrillation (p<0.001), lower haemoglobin levels (p<0.001), CI (p=0.02), and beta-blocker treatment (p<0.001) were associated with higher NT-proBNP. After multiple adjustment
for demographic and clinical variables peakVO2 was not significantly associated with E/e' (r=+0.01, p=0.87), logNT-proBNP (r=0.09, p=0.08), LAVI (r=+0.03, p=0.55), and LVMI (r=+0.05, p=0.37). The associations of E/e' with logNT-proBNP (r=0.21, p<0.001), LAVI (r=+0.29, p<0.001) and LVMI (r=0.09, p=0.06) were detectable also after multiple adjustment. Demographic and clinical characteristics differentially interact with exercise capacity, resting left ventricular filling index, neurohumoral activation, and left atrial and ventricular remodelling in HFpEF. Exercise intolerance in HFpEF is multi-factorial and therapeutic approaches addressing exercise capacity should therefore not only aim to improve single pathological mechanisms. Registration: ISRCTN94726526 (http://www.controlled-trials.com), Eudra-CT-number 2006-002605-31.