Abstract: **P998**

**Effects of sacubitril/valsartan on cardiac performance and exercise capacity**

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**Topic(s):**
Chronic Heart Failure: Pharmacotherapy

**Citation:**
Background: Sacubitril/Valsartan has emerged as a novel therapy in the treatment of heart failure (HF) with reduced ejection fraction (HFrEF), showing lower rates cardiovascular mortality and HF hospitalization compared to standard therapy. Although the recent widespread use of sacubitril/valsartan in clinical practice, data on exercise capacity of HF patients on treatment are still lacking.

Methods: We enrolled patients with HFrEF in two Italian experienced HF centers, who started sacubitril/valsartan according to 2016 ESC Guidelines recommendations. Patients underwent clinical assessment, venous blood sample collection, transthoracic echocardiography and cardiopulmonary exercise test at baseline (before starting sacubitril/valsartan) and after reaching the maximum tolerated dose. Baseline and follow-up data were compared to assess the effects of sacubitril/valsartan on cardiac performance and exercise capacity.

Results: Thirty-two patients (87% males, mean age 65.8±9.5) were studied in the present preliminary analysis. In 3 patients the treatment was interrupted do to different reasons (2 hypotension, 1 renal dysfunction). The mean reached dose was 143±66 mg and 56% of patients reached the maximum dose (200 mg). Comparing baseline analysis with follow-up assessment (104±60 days) we observed a statistically significant, however not clinically relevant, decrease in systolic and diastolic blood pressure (respectively, 119±16 vs. 109±17 mmHg, \( p=0.01 \); 73±8 vs. 67±8 mmHg, \( p=0.01 \)) and a stability of renal function (eGFR MDRD 71.2±20 vs. 70.8±20 ml/min/1.72m²; \( p=\text{ns} \)) and potassium levels (4.51±0.41 vs. 4.59±0.45 mmol/l). Regarding cardiac performance and exercise capacity, a significant increase in EF (31.2±3.1 vs. 36±4.6%; \( p<0.001 \)) and in workload reached at peak exercise (86.2±37.5 vs. 92.5±39 watt; \( p=0.001 \)) was observed at follow-up (Figure 1A and B). Peak VO2 showed a trend toward increased values at follow-up, however at the moment not significant (14.2±4.4 vs. 14.7±4.1 ml/kg/min; \( p=\text{ns} \)), similarly ventilatory efficiency during exercise (VE/VCO2 slope) showed a slight, however not significant, improvement (31.2±6.2 vs. 30.1±5.8, \( p=\text{ns} \)) during follow-up assessment.

Conclusion: Medium-term treatment with sacubitril/valsartan is safe and leads to an increase in systolic function, assessed by EF, and in maximum workload reached at the peak of the exercise. A trend toward an improvement in peak oxygen uptake and ventilatory efficiency is reasonable, however longer follow-up is needed to clarify the specific effect of sacubitril/valsartan on exercise capacity.
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