## **Topic: 3. Heart Failure and Cardiomyopathy**

# Does Angiotensin Receptor Neprilysin Inhibitor (ARNI) Improve Functional Capacity Assessed by 6 Minutes Walking Test?

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#### Introduction and Objectives

LCZ696 has been considered class I B in the recent ESC Guidelines of heart failure (HF) for stable HF patients with left ventricular ejection fraction (LVEF) < 35 %, who remain symptomatic after the standard therapy, based on the results of the PARADIGM trial. This study showed a significant reduction in the risk of cardiovascular death and hospitalization for HF in patients treated with LCZ696 compared to those treated with enalapril. Although the study reported to improve the quality of life and NYHA functional class, it was not tested the functional capacity with any functional test. The 6-minute walk test (6MWT) is an easy method to objectively measure patients' submaximal functional capacity because of its reproducability, simplicity, and cost-effectiveness.

To analyse the impact of Sacubitril/Valsartan on functional capacity in patients with chronic HF.

#### Materials and Methods

Since October 2016, when the drug was marketed, all the patients referred to our HF-Unit who accomplished the 2016 HF ESC guidelines criteria for entresto were included in the study. A 6MWT was performed before starting the treatment and after three months of having optimized the dose. Physiological parameters and blood analysis were also measured at these time points.

#### Results

41 patients were screened and 30 of them entered in the study. These patients had the following characteristics: mean age 70, 80 %

### Table 1

	Basal	After 3 months	р
<b>6MWT</b> (m)	274±96	335±100	0.05
< 300 m	52 %	30 %	0.045
NTproBNP (pg/ml)	3470	1965	0.04
K⁺ (mEq/L)	4,3	4,4	n.s.
TAS (mmHg)	128±13	119±17	n.s.
% pacientes con TAS < 100 mmHg	0 %	7 %	n.s.
FG (ml/min/1.73m <sup>2</sup> )	62±17	60±17	n.s.
%pacientes con FG < 60 ml/min/1.73m <sup>2</sup>	53 %	43 %	n.s.

were males, mean LVEF was 30 %, isquemic etiology of HF 37 %, mean maximal tolerated dose 98mg/day. The results of the 6MWT, physiological parameters and blood samples are presented in Table 1.

Results are mean or percentage. 6MWT: 6 minute walk test; M= meters; SBP: systolic blood pressure; GFR: glomerular filtration rate

#### Conclusions

Patients treated with Sacubitril/Valsartan improved their submaximal functional capacity at three months of treatment. Safety criteria such as hypotension or impaired renal function were not observed.

<sup>1.</sup> Myers J, Zaheer N, Quaglietti S, Madhavan R, Froelicher V, Heidenreich P. Association of functional and health status measures in heart failure. J Card Fail. 2006;12:439-45.

<sup>2.</sup> Guyatt GH, Sullivan MJ, Thompson PJ, Fallen EL, Pugsley SO, Taylor DW, et al. The 6-minute walk: a new measure of exercise capacity in patients with chronic heart failure. Can Med Assoc J. 1985;132:919-23.

Yap J, Lim FY, Gao F, Teo LL, Lam CS, Yeo KK. Correlation of the New York Heart Association Classification and the 6-Minute Walk Distance: A Systematic Review. Clin Cardiol. 2015;38:621-8.
McMurray JJ, Packer M, Desai AS, Gong J, Lefkowitz MP, Rizkala AR, Rouleau JL, Shi VC, Solomon SD, Swedberg K, Zile MR, PARADIGM-HF Investigators and Committees. Angiotensin-neprilysin inhibition

versus enalapril in heart failure. N Engl J Med 2014;**371**:993–1004.