The Impact of Sacubitril / Valsartan Versus ACE/ARB Therapy on Functional Capacity in Heart Failure with Reduced Ejection Fraction

Mohammad Yassen, MD[1*]

[1]Division of Cardiovascular Medicine, Department of Medicine, The University of Toledo, Toledo, OH 43614

*Corresponding author: Mohammad.Yassen@utoledo.edu

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Introduction: Angiotensin Receptor Neprilysin Inhibitors (ARNI) have emerged as a promising pharmacological therapy with heart failure-related hospitalization and mortality benefits in patients with heart failure with reduced ejection fraction. Given the correlation between subjective, patient-oriented measures and objective outcomes (for example, perceived symptomatic benefits promoting medication compliance), we sought to investigate the effect of ARNIs on exercise capacity in a patient-defined manner.

Methods: We performed a literature search using PubMed, Embase, and Cochrane Library from inception through May 2022 to assess the impact of Sacubitril/Valsartan versus ACE therapy on physical activity tolerance in patients with heart failure with reduced ejection fraction. The co-primary outcomes were change from baseline mean KCCQ-23 scores and the 6-minute walk test (6MWT).

Results: 2 studies (both randomized control trials) involving 8539 patients were included in the meta-analysis. Compared to patients receiving ACE therapy, the ARNI group showed no statistically significant difference in either change from mean baseline KCCQ-23 scores (MD 4.23, CI, -0.88, 0.93, p =0.10) or the 6MWT (MD 2.09, CI -11.60, 15.79, p = 0.76).

Conclusion: The use of ARNI compared to standard ACE therapy confers no statistically significant improvement in functional capacity in patients with heart failure with reduced ejection fraction. Further trials with large sample sizes are needed to confirm our findings.

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