Abstract: P1669

Recovery of left ventricular dysfunction after Sacubitril/valsartan: predictors and managements

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Introduction:

Current heart failure (HF) guidelines give class I, level of evidence B recommendation to replace renin-angiotensin system (RAS) blockers with sacubitril/valsartan in patients with chronic symptomatic HF with reduced ejection fraction (HFrEF) despite optimal treatment. However, data regarding recovery of left ventricular function after sacubitril/valsartan treatment and how to manage these patients remained sparse.

Methods:

We consecutively enrolled 432 HFrEF patients treated with sacubitril/valsartan between January and December 2017. All patients underwent routine echocardiographic measurement. Baseline characteristics were collected and compared between patients with had recovery of LVEF = 50% (HFrecEF) and patients without recovery of LVEF. Among patients with HFrecEF, serial echocardiographic studies and clinical outcomes were compared between patients with different treatment strategies (Maintenance and Taper Group).

Results:

During treatment period, 68 (15.7%) patients had LVEF = 50%. After multivariate analysis, recovery of left ventricular dysfunction after sacubitril/valsartan treatment was associated with non-ischemic etiology of HF (odds ratio 3.05; 95% CI 1.63 to 5.70; p<0.001), smaller baseline left ventricular end-diastolic diameter (odds ratio 0.92 per decrease of 1 mm; 95% CI 0.89 to 0.95; p<0.001) and initial daily dosage of sacubitril/valsartan = 100mg (odds ratio 2.70; 95% CI 1.30 to 5.62; p=0.008). Among these 68 HFrecEF patients, 42 patients continued to receive the same dosage of sacubitril/valsartan, whereas 26 patients received either tapering dose of sacubitril/valsartan or switched from sacubitril/valsartan to RAS blockers. Follow-up echocardiography showed that patients in the Maintenance Group had higher LVEF and less likely to have deterioration of LVEF than those in the Taper Group (LVEF 55.4±6.3% vs. 47.3±13.6%, p=0.007; ?LVEF 0.5±5.8% vs. -5.9±11.4%, p=0.013). Unplanned hospitalization for HF tends to occur in the Taper group than the Maintenance group (15.4% vs. 2.4%, p=0.067).

Conclusion:

Non-ischemic etiology of HF, smaller baseline left ventricular end-diastolic diameter and higher initial dosage of sacubitril/valsartan could predict a better recovery of left ventricular dysfunction. In HFrecEF patients, decreasing dosage of sacubitril/valsartan or switching from sacubitril/valsartan to RAS blockers were associated with re-deterioration of heart function.