Abstract: P13

Safety and efficacy of sacubitril-valsartan initiation during and after acute decompensated heart failure with reduced ejection fraction

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Background: The PIONEER-HF trial has demonstrated the safety of Sacubitril-Valsartan initiation during acute decompensated heart failure (ADHF) compared to Enalapril. The efficacy outcome was also addressed by the surrogate end point of reduction in NT-proBNP. However, the safety and efficacy of Sacubitril-Valsartan initiation during ADHF compared to initiation after ADHF was unknown.

Objectives: (1) To compare the safety and efficacy of Sacubitril-Valsartan initiation during ADHF(inpatient) to initiation after ADHF(outpatient). (2) To explore the echocardiogram parameters associated with Sacubitril-Valsartan initiation during ADHF(inpatient) versus after ADHF(outpatient).

Methods: We enrolled patients diagnosed with heart failure with reduced ejection fraction (HFrEF) initiated on Sacubitril-Valsartan from February 2017 to December 2018. The baseline characteristics, echocardiogram parameters (changes in LVEF and positive remodeling), composite safety outcomes (hypotension, interruption of Sacubitril-Valsartan and worsening of renal function), and efficacy outcomes (cardiac death, readmission for heart failure) were compared.

Results: Thirty-seven patients were identified out of which 21 patients started Entresto after ADHF (outpatient group) and 16 patients during ADHF (inpatient group). The median follow-up duration was 196 days (IQR: 105 to 328days). The baseline characteristics were similar between the 2 groups. Outpatient groups achieved a significantly higher maximally tolerable dose of Sacubitril-Valsartan compared to inpatient group (median 400mg/day versus 200mg/day, p=0.008) despite a similar starting dose (median 100mg/day versus 100mg/day, p=0.127). The composite efficacy outcomes were similar between the 2 groups (4.8% versus 18.8%, p=0.296). The composite safety outcome was similar between the groups (18.8% versus 4.8%, HR5.70 p=0.054, 95%CI 0.967 to 33.60). Both groups achieved a significant improvement in LVEF after initiation of Sacubitril-Valsartan therapy: mean LVEF 23.44±7.88% to 34.30±13.88% (p=0.001) in outpatient group; mean LVEF 22.99±11.31% to 38.81±13.91% (p=0.002) in inpatient group. Reverse remodeling (reduction of LVESV=15%) was similar between the 2 groups (61.9% versus 50.0%, p=0.506).

Conclusions: Among patients with HFrEF in ADHF, initiation of Sacubitril-Valsartan therapy during or after ADHF led to similar safety and efficacy. Overall, there was a significant improvement in LVEF and positive remodeling of the LV regardless of the timing of initiation of therapy.