Sacubitril/Valsartan in real world heart failure practice in Asia

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Abstract: P1666

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Background: Sacubitril/valsartan was recommended by major guidelines as the frontline therapy for heart failure with reduced ejection fraction (HFrEF) since its clinical benefit was proved by the PARADIGM-HF trial. However, little is known about its safety and effectiveness in real-world practice, often with sicker and more fragile patients. In addition, east Asia population is underrepresented in PARADIGM-HF trial.

Methods: We performed a retrospective analysis of patients received sacubitril/valsartan in Chang Gung Research database (CGRD). CGRD is a de-identified database derived from original medical records of our Memorial Hospital, which include three medical institutes located in northern Taiwan. Patients received a prescription of a least 30 days of sacubitril/valsartan were enrolled. The date of first prescription was defined as the index date, and a period of 12 months preceding the index date was defined as the baseline period.

Results: A total of 440 patients were identified (age 61.58±15.07, male 78%, LVEF 31.32±9.66%). Comparing to PARADIGM-HF trial, our patients had higher baseline serum creatinine (mean 1.52 mg/dl) and BNP (mean 956.9 pg/ml) level. In addition, 75.9% of the patients had been hospitalized for heart failure during the baseline period. After a mean duration of 234 days, overall readmission rate was 21.1% and mortality rate was 2.93%. LVEF significantly improved from baseline to 6 months (31.32 vs. 38.46 p<0.001). After 1:1 propensity score matching to patients treated with ACEi/ARB, sacubitril/valsartan significantly reduce mortality (4.78% vs. 11.5%, p=0.02). 139 patients (31.7%) had moderate to severe chronic kidney disease (CKD) (eGFR< 60ml/min/1.73m2). Patient had stage 3 CKD (eGFR 30-59) had similar all cause readmission and death rate to patient with normal to mild CKD. However, patients with stage 4 to 5 CKD (eGFR<30) had higher all cause readmission rate than mortality. In addition, patients who received daily dose over 200mg had lower mortality rate.

Conclusion: Sacubitril/valsartan improved LV systolic function in 6 months. Real-world sicker patient also demonstrates survival benefit of Sacubitril/valsartan. The efficacy was comparable between patients with stage 3 CKD to those with normal to mild CKD. However, its safety and efficacy in stage 4 to 5 CKD warrant further investigation.