Sacubitril/valsartan therapy and supraventricular arrhythmias detected through remote monitoring in heart failure patients

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Background: Sacubitril/valsartan (S/V) has demonstrated a significant benefit in decreasing mortality and morbidity in patients with heart failure with reduced ejection fraction (HFrEF) when compared to angiotensin inhibition. Recent studies demonstrated that the benefits of S/V encompass a positive cardiac remodeling, leading to a reduction of ventricular arrhythmias. The effect of S/V on the supraventricular arrhythmic burden is still unknown.

Purpose: To evaluate the effect of sacubitril/valsartan on the supraventricular arrhythmic burden in HFrEF patients with an implantable cardioverter defibrillator (ICD) or cardiac resynchronisation therapy-defibrillator (CRT-D) and remote monitoring.

Methods: The SAVE THE RHYTHM is a multicentre, observational, prospective registry is enrolling all patients with HFrEF, ICD or CRT-D actively followed through remote monitoring and starting treatment with sacubitril/valsartan. All patients are followed-up at least one year after sacubitril/valsartan start. The primary endpoint is the number of sustained atrial tachycardia or AF (AT/AF). Secondary endpoints include incidence of AT/AF in the total population, total burden of AT/AF (defined as the percentage of time in AT/AF per day), mean number of premature ventricular contractions (PVC) per hour and percentage of biventricular pacing per day (in patients with CRT-D). All primary and secondary endpoints are collected through remote monitoring.

Results: At the time of the second ad interim analysis, 188 patients (85.2% male, age 68 ± 10 years) were consecutively enrolled. In patients without permanent AF, treatment with S/V was associated with a reduced incidence of AT/AF episodes, which changed from 32.6% (before treatment start) to 24.3%, 20.5% and 6.9% according to the sacubitril/valsartan dose (24/26 mg, 49/51 mg and 97/103 mg respectively; p= 0.041). A significant decrease in the median annual number of AT/AF episodes was also seen in these patients (16/year before treatment; 12/year at 24/26 mg; 6/year at 49/51 mg and 1/year at 97/103 mg; p = 0.046). No significant differences were reported in terms of PVC or biventricular pacing (all p = NS). Patients with permanent AF experienced no benefits from sacubitril/valsartan therapy in terms of arrhythmic burden reduction. No new diagnosis of clinical AF was made after starting treatment with sacubitrl/valsartan in all patients.

Conclusions: Preliminary data suggest that therapy with S/V could reduce the episodes of AT/AF in patients with HFrEF and remote monitoring, and the benefit seems related to the maximum tolerated dose of S/V. No positive effect has been noted in patients with permanent AF.