Sacubitril/valsartan reduces atrial fibrillation and supraventricular arrhythmias in patients with HFrEF and remote monitoring: preliminary data from the SAVE THE RHYTHM

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Background: Sacubitril/valsartan, the first combined angiotensin receptor-neprilysin inhibitor, has demonstrated a significant benefit compared to angiotensin inhibitor in decreasing ventricular arrhythmias and appropriate implantable cardioverter defibrillator (ICD) shocks in patients with heart failure with reduced ejection fraction (HFrEF). At present, there is no study which evaluates the effect of sacubitril/valsartan on the supraventricular arrhythmic burden in HFrEF patients with an ICD or cardiac resynchronisation therapy-defibrillator (CRT-D) and remote monitoring.

Purpose: To evaluate the effect of sacubitril/valsartan on the supraventricular arrhythmic burden in HFrEF patients with an ICD or CRTD and remote monitoring.

Methods: The SAVETHERHYTHM ((SAacubitril Valsartan rEal-world registry evaluating THE arRHYTHMia burden in HFrEF patients with implantable cardioverter defibrillator) is a multicentre, observational, prospective registry 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 for at least one year after sacubitril/valsartan start. The primary endpoint is the mean number of sustained atrial tachycardia or atrial fibrillation (AT/AF) episodes per month. Secondary endpoints include the total burden of AT/AF (defined as the percentage of time in AT/AF per day), the mean number of premature ventricular contractions (PVC) per hour and the 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 first ad interim analysis, 60 patients (85.2% male, age 69±10 years) were consecutively enrolled. After treatment with sacubitril/valsartan, patients with at least one episode of AT/AF per month decreased from 32.8% to 21.3% (p=0.015). A significant decrease in number of AT/AF episodes (from 4.3 to 1.2 per year), in AT/AF burden (from 12% to 9%) and in number of PVC (from 83 to 74 per hour) were seen in patients with a previous diagnosis of paroxysmal or persistent AF (n=15; all $p<0.05$). Patients with permanent AF (n=7) experienced no benefits from sacubitril/valsartan therapy in terms of arrhythmic burden reduction. Patients with no previous history of AF (n=38) showed a decrease in number of AT/AF episodes (from 2.0 to 0.8 per year) and in number of PVC (from 77 to 49 per hour, all $p<0.05$). No new diagnosis of clinical AF was made after starting treatment with sacubitrl/valsartan, and patients with subclinical AT/AF episodes decreased from 8% to 3%.

Conclusions: Preliminary data suggest that therapy with sacubitril/valsartan could decrease arrhythmic burden in patients with non-permanent AF and reduce subclinical AT/AF episodes in patients with no history of AF. No positive effect has been noted in patients with permanent AF.