Sacubitril/valsartan in chronic heart failure – early clinical experience from a tertiary centre

Authors: Danish Ali, Jacqui Hyland, Fiona Riley, Stephanie Kirkland, Sarah Al Bared, Parekh Rajen, Lisa Hinitt, Catherine Watson, Hayley Nicholson, Umar Fraz and Prithwish Banerjee

Aims

We report our clinical experience of sacubitril/valsartan (SV) use in heart failure (HF) patients at a large UK cardiac centre.

Methods

Heart failure with reduced ejection fraction (HFrEF) patients seen in the HF clinic and started on SV from April 2016 to July 2017 were retrospectively evaluated. Change in New York Heart Association (NYHA) class, estimated glomerular filtration rate (eGFR), up-titration to target dose and tolerability to SV were assessed. Six-month and 1-year outcomes of mortality and HF hospitalisations were evaluated. Patients were seen in the nurse-led, cardiologist-supervised, HF clinic at 4-weekly intervals until up-titration to maximum tolerated dose.

Results

A total of 140 patients were included (Table 1) and in 77 patients (55%) up-titration to the target dose was achieved (Table 2). An improvement of NYHA class was seen in 43 (31%) patients and left ventricular ejection fraction (LVEF) improved in 23 (66%) patients. 44 (31%) patients had symptomatic systolic blood pressure drop of >10 mmHg at follow up preventing target dose up-titration. Eight (6%) HF admissions and five (4%) in-hospital deaths occurred in 6 months. Of the total cohort of 140, 1-year outcome was observed in 68 patients with a mortality of 7% (n=5) and HF admission of 6% (n=4). Fifteen (10%) patients had a worsening of the eGFR >10 and in 11 (8%) patients SV was stopped to due intolerability.

Conclusion

The clinical use of SV in our centre has a high rate of tolerability with significant improvement in NYHA class (31%) and excellent 6-month and 1-year outcomes. However, in a large proportion of patients, the target dose was not achieved (45%), mainly due to reported dizziness and postural blood pressure drop. ■

Table 1. Baseline characteristics

Baseline characteristics	**n=140**
Male	108 (77%)
Average age and range (years)	67 (29–89)
Mean ejection fraction (range)	23% (8%>35%)
NYHA 2	74 (53%)
NYHA 3	65 (46%)
NYHA 4	1 (1%)
Comorbidities	
Ischaemic heart disease	46 (33%)
Atrial fibrillation	53 (38%)
Diabetes mellitus	36 (26%)
Hypertension	49 (35%)
CKD	39 (28%)
Medication	
ACE-i	103 (73%)
ARB	38 (27%)
Beta blocker	135 (96%)
MRA	96 (69%)
Loop diuretics	104 (74%)
All devices	30 (21%)
CRT (D/P)	22 (16%)
ICD	8 (6%)

ACE-i = angiotensin-converting enzyme inhibitor; ARB = angiotensin receptor blocker; CKD = chronic kidney disease; CRT = cardiac resynchronisation therapy; ICD = implantable cardioverter defibrillator; MRA = mineralocorticoid receptor antagonist; NYHA = New York Heart Association.

Author: University Hospitals Coventry and Warwickshire NHS Trust, UK

Table 2. Outcome measures

Outcome measures (n=140)	
Up-titration achieved (target dose 97/103 mg bd)	77 (55%)
Reduction in loop diuretic dosage	30 (27%)
SV intolerability and stopped	11 (8%)
MRA dose reduced due to hyperkalaemia	2 (2%)
MRA dose stopped due to hyperkalaemia	1 (1%)
Postural hypotension with drop of systolic blood pressure at (>10 mmHg)	44 (31%)
Hyperkalaemia (>6.0 mmol/L)	4* (3%)
Deterioration in eGFR>10	15 (10%)
NYHA class improvement (by 1 class)	43 (31%)
Improvement in LVEF	23† out of total 34 patients (66%)
Mean EF (pre-SV) (±SD)	23% (±8.6)
Mean EF (post-SV) (±SD)	30% (±10.5)
Mortality (6 months n=140)	5‡ (4%)
Mortality (1 year n=68)	5 (7%)
HF admission (6 months n=140)	8 (6%)
HF admission (1 year n=68)	4 (6%)

*2 patients admitted to hospital.

†7 patients from LVEF <35% to >55%.

‡2 HF-related deaths, 3 non-HF-related deaths.

EF = ejection fraction; eGFR = estimated glomerular filtration rate; HF = heart failure; LVEF = left ventricular ejection fraction; MRA = mineralocorticoid receptor antagonist; NHYA = New York Heart Association; SD = standard deviation; SV = sacubitril/valsartan.

Conflict of interest statement

None.