SACUBITRIL/VALSARTAN RESULTS IN A SIGNIFICANT REDUCTION IN THE NEED FOR PROPHYLACTIC IMPANTABLE CARDIAC DEFIBRILLATOR IN A HEART FAILURE WITH REDUCED EJECTION FRACTION POPULATION

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Introduction Secubitril/Valsartan (SV) has become a standard front line therapy for patients with heart failure with reduced ejection fraction (HFrEF) with a left ventricular ejection fraction (LVEF) less than or equal to 35%. It has been shown to reduce heart failure hospitalisations, death and improve quality of life. In addition, it has been shown to have an impact on improving LVEF and reducing sudden cardiac death independent of implantable cardiac defibrillator (ICD) protection. These observations indicate that SV might have an impact on prophylactic ICD need in this syndrome. To date there are few if any data on this issue in a standard community population.

Aim The aim of this study is to assess whether SV therapy reduced the requirement for prophylactic ICD use in patients with HFrEF.

Method In an ongoing audit of the impact of SV in a community heart failure population we are analysing the impact of this agent on the change in LVEF comparing the baseline value, determining the need for therapy with SV, with a value taken a minimum of three months following the last titration step with this agent. Patients who would meet the criteria for prophylactic ICD as defined by the European Society of Cardiology would require symptomatic heart failure (NYHA Class II-III) in addition to an LVEF of 35% or less despite at least three months of optimal medical therapy. Effective avoidance of need as a result of SV use was defined as moving above the 35% cut-off with at least a 5% change in value.

Result In an ongoing analysis of 507 patients, 341 to date have completed titration and have undergone a post titration follow up assessment of LVEF. The mean age of the population is 73 years old (IQR 59-77yrs) with 70% being male. 38% had atrial fibrillation. All had been treated with ACEI/ARB with 40% of these achieving target dose therapy prior to use of SV. 90% were on a beta-blocker with 13% at target dose and 69% were on a mineralocorticoid receptor antagonist, with 38% at target dose. The average LVEF for the population at baseline was 28.1% (SD 7.36%). At follow-up the LVEF climbed to an average of 34.7% (SD 11.45%). Overall 51% of patients achieved an improvement in EF of 5% or more with SV, with the average improvement being 6.6%. 10.85% of patients experienced a reduction in EF of 5% or more, with the average reduction being 8.9%. 39% of the population did not see a significant change in EF. 32.5% of the cohort demonstrated an increase in at least 5% in LVEF and went above the 35% cut-off point thereby moving above the value for prophylactic ICD.

Conclusion These findings support previous observations in demonstrating a significant improvement in LVEF with SV in a population receiving effective standard background therapies. A novel and important observation from these data is that the improvement in LVEF removes approximately a third of the cohort from the need for a prophylactic ICD. This finding

has important clinical and health economic implications further strengthening the role of this agent in HFREF management.

THE EFFECTS OF NOCTURNAL HYPERTENSION AND ABNORMAL NOCTURNAL DIPPING STATUS ON NT-PROBNP

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Introduction The presence of abnormal nocturnal blood pressure (BP) patterns has been associated with adverse cardiovascular events such as heart failure and ischemic heart disease. We performed a sub-analysis of the PARABLE trial (NCT04687111) consisting of patients at risk of developing heart failure. Our aim was to investigate whether the presence of nocturnal hypertension (NH) and a 'riser pattern' was associated with increased NT-proBNP levels, as a marker of cardiac end-organ damage in comparison to other BP patterns. This is one of the largest studies correlating NT-proBNP levels with the presence of a riser pattern in otherwise well treated patients with normal daytime BP.

Methodology Baseline demographic data, ambulatory BP monitor results and NT-proBNP levels were available for 246 of the 250 PARABLE trial patients, which included those with hypertension or diabetes, an elevated BNP or NT-proBNP and an abnormal LAVI > 28 mL/m². These were analysed by means of independent-samples t-test or Mann-Whitney test for continuous variables and chi-square or Fisher exact tests for categorical variables. Statistical analysis was performed using SPSS v27.

Results Table 1 and 2 summarises the baseline clinical data. The study cohort had a mean age of 71.9 ± 7.7 years and 93 patients (37.8%) were female. 144 patients (58.5%) had NH as defined by the ESC whereas 102 patients (41.5%) had normal night-time BP. Nocturnal BP analysis revealed 77 dippers, 12 extreme dippers, 127 non-dippers and 30 risers. Baseline demographics did not differ between the various dipping subgroups. However, risers had a significantly higher mean 24-hour systolic BP (133 ± 11 vs 128 ± 11 mmHg, p = 0.016). This was driven by higher nocturnal BP as expected (138 ± 13 vs 120 ± 12 mmHg, p < 0.0001) but with similar day-time systolic BP (130 ± 10 vs 132 ± 12 mmHg, p = 0.368). BNP Data The median NT-proBNP of NH patients was higher compared to normotensive patients (158 pg/mL (IQR: 96-293) vs 123 pg/mL (IQR: 75-210); p = 0.001). However, NH patients tended to

Abstract 44 Table 1 Baseline data and co-morbidities (n= 246)

Age (years)	71.9 ± 7.7
Male (%)	62.2%
Diabetes mellitus – No (%)	59 (23.9%)
Dyslipidaemia – No (%)	218 (88.6%)
Coronary artery disease – No (%)	104 (42.2%)
Atrial fibrillation – No (%)	24 (9.8%)
Chronic kidney disease – No (%)	46 (18.6%)
Established arterial hypertension – No (%)	241 (97.9%)
Nocturnal Hypertension	144 patients

Abstract 44 Table 2 Baseline characteristics of risers and non-risers

	Riser pattern (N = 30)	Non-riser patterns (dippers, extreme dippers and non-dippers) (N=216)	P value
Age (years)	72±7.68	71.83±7.68	0.909
LVEF –%	65±7.67%	67.2±6.87%	0.107
Mean 24 hour systolic BP – mmHg	133±11	128±11	0.016
Mean daytime systolic BP – mmHg	130±10	132±12	0.368
Mean nocturnal systolic BP – mmHg	138±13	120±12	<0.0001
Female sex – No (%)	12/30 (40%)	81/216 (37.5%)	0.791
Diabetes mellitus – No (%)	8/30 (26.7%)	51/216 (23.6%)	0.713
Coronary artery disease – No (%)	13/30 (43.3%)	91/216 (42.1%)	0.900
Atrial fibrillation – No (%)	3/30 (10%)	21/216 (9.72%)	1.000
Chronic kidney disease – No (%)	2/30 (6.67%)	44/216 (20.37%)	0.082
ACE inhibitor use	11/30 (36.67%)	85/216 (39.35%)	0.778
ARB use	11/30 (36.67%)	87/216 (40.28%)	0.705
CCB use	10/30 (33.33%)	97/216 (44.91%)	0.231
Thiazide use	9/30 (30%)	64/216 (29.63%)	0.967
Loop diuretic use	2/30 (6.67%)	10/216 (4.63%)	0.645

Abstract 44 Figure 1 NT-proBNP data across dipping groups

have higher daytime systolic BP (137 ± 10 vs 125 ± 10 mmHg; $p < 0.001$) and rates of atrial fibrillation (13.2% vs 4.9% ; $p = 0.031$) compared to those with normal nocturnal BP, which could have confounded the analysis. There was a significant difference in median NT-proBNP across all dipping groups ($p = 0.043$). Risers had the highest plasma NT-proBNP in comparison to other dipping groups combined: 198pg/mL (IQR: 119-198) vs 135 pg/mL (IQR: 82.25-234.75) ($p = 0.02$). (See figure 1).

Conclusion Patients with NH had higher plasma NT-proBNP levels than those without nocturnal hypertension. Risers had the highest NT-proBNP data and therefore may be at increased risk of heart failure compared to other subgroups. This study provides evidence that nocturnal hypertension and abnormal dipping, pattern is associated with adverse cardiac physiological changes. This observation lends support for initiating the use of 24hour-ABPM to identify those with sub-clinical target organ damage for risk stratification and individualized treatment strategies.

45

EVALUATING THE IMPACT OF COVID-19 ON REGIONAL PRIMARY PERCUTANEOUS CORONARY INTERVENTION SERVICE DURING THE FIRST WAVE OF COVID-19

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Aims Primary Percutaneous Coronary Intervention (pPCI) remains the preferred reperfusion strategy for patients with ST-segment elevation myocardial infarction (STEMI). We evaluated the impact of first wave of COVID-19 on our pPCI service; was there a reduction in the number of pPCIs performed? Were referrals to the pPCI service inappropriately turned down?

Methods Retrospective observational study of all referrals to the Belfast pPCI service between 23rd March 2020 and 9th June 2020. All electrocardiograms (ECGs) were reviewed with corresponding referral history logged on a Microsoft Access

Abstract 45 Figure 1 Showing detail of all pPCI referrals received within the period of study **Abstract 45 Figure 2** Comparison between the numbers of pPCIs performed between 2019 and 2020