

## Introduction

- Sacubitril/valsartan is associated with structural and functional reverse remodeling in patients with Heart Failure with Reduced Ejection Fraction (HFrEF).
- It is uncertain if a subset of patients with HFrEF and Left Bundle Branch Block (LBBB) treated with sacubitril/valsartan have resolution of LBBB.

## Aims

- We aim to assess the effect of sacubitril/valsartan on electrical and structural reverse remodeling in patients with HFrEF and LBBB.

## Methods

- We performed a retrospective study of HFrEF patients treated with Sacubitril/Valsartan from January 2014 to June 2019 at our institution. Minimum duration of treatment and follow-up required for inclusion was 3 months.
- Electrocardiographic and echocardiographic parameters were reviewed at four time points. Patients with baseline LBBB were identified.
- Patients who underwent Cardiac Resynchronization Therapy (CRT)  $\geq 3$  months after sacubitril/valsartan initiation were included and censored following CRT implantation.

## Figures

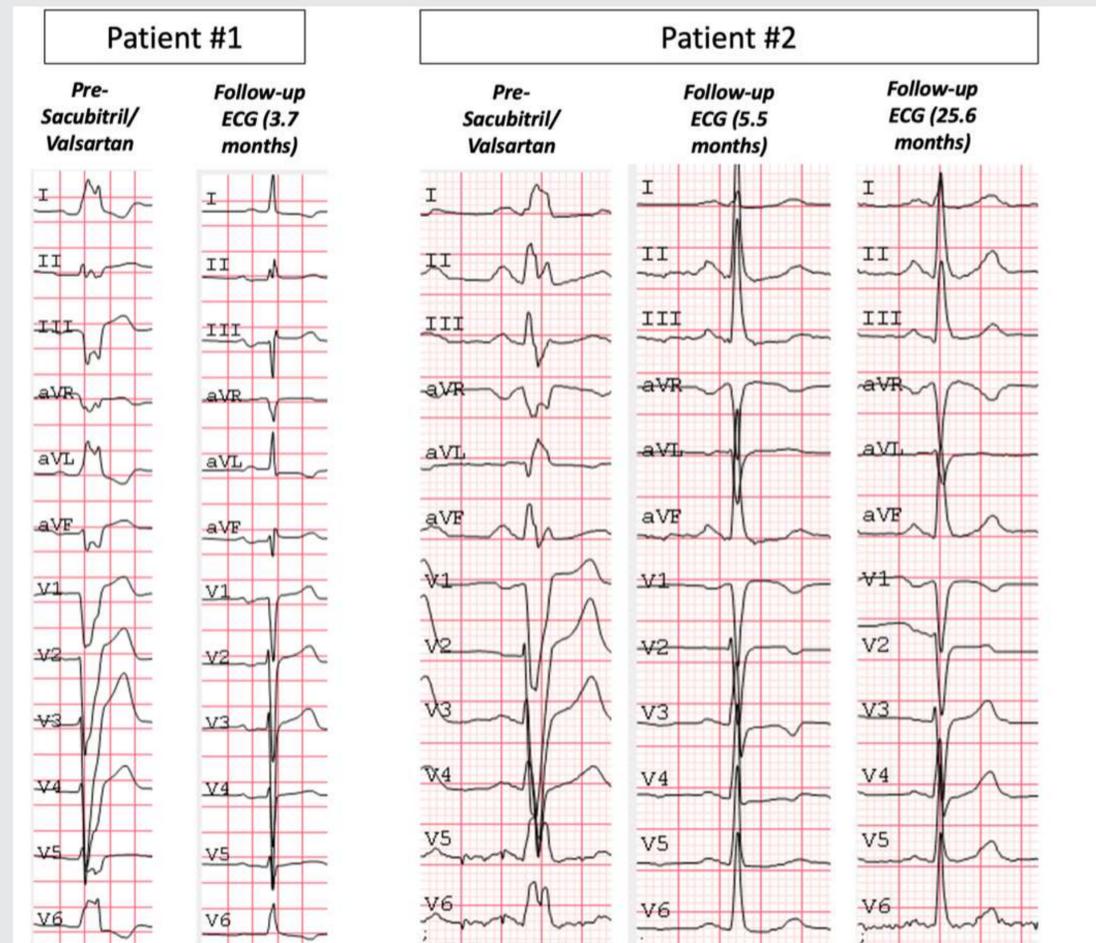


Figure 1. Examples from two patients with resolution of left bundle branch block

## Results

- Among 368 patients that met study criteria, 56 (15%) had baseline LBBB.
- Mean age was 64 ( $\pm 13.5$ ), 53.6% were male and 78.6% had nonischemic cardiomyopathy.
- During median (IQR) follow-up of 9.1 months (5-18 mo), five (9%) had resolution of LBBB to normal conduction and two (4%) had improvement to non-specific IVCD.
- Examples of ECGs illustrating LBBB resolution are shown in Figure 1.
- Time to resolution of LBBB ranged from 1.2-5.7 months. Long term follow-up was only available in one patient with resolution of LBBB lasting at least 25.6 months after initiation of sacubitril/valsartan. The majority (n=4/5, 80%) had nonischemic cardiomyopathy.
- There was a trend towards greater improvement in LVEF in those with LBBB resolution vs. persistence ( $23 \pm 6\%$  vs.  $9 \pm 15\%$ ,  $p=0.11$ ) as well as a trend towards greater reduction in LVVIDd ( $-1.2 \pm 0.8$  cm vs.  $-0.5 \pm 0.7$  cm,  $p=0.08$ ).

## Conclusion

- A small subset of patients with HFrEF and LBBB have resolution of LBBB with sacubitril/Valsartan therapy.
- This may have important ramifications for timing of CRT implantation and highlights the potential importance of assessing the underlying rhythm in patients that receive a CRT device.

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