## COMMENTARY



## Comments About: Prognostic Significance of Heart Rate and Beta-Blocker Use in Sinus Rhythm in Patients with Heart Failure and Preserved Ejection Fraction

Edmundo Cabrera Fischer<sup>1</sup>

Received: 21 October 2019 / Accepted: 11 November 2019 / Published online: 21 November 2019 © Italian Society of Hypertension 2019

The article entitled "Prognostic significance of heart rate and beta-blocker use in sinus rhythm in patients with heart failure and preserved ejection fraction" has an interesting conclusion that involves prognostic connotations [1]. Indeed, authors concluded that lower heart rate was associated with lower mortality in the Chinese population included in their study. The analysed population included 330 elderly patients admitted with heart failure diagnosis.

As has been largely reported, circulatory failure has nowadays pandemic characteristics [2] and the available treatment in the last stage (cardiac transplant) is a possibility hardly limited by the few number of donors with respect to the long list of potential recipients. This undesirable situation has determined the biomechanical modelization of the cardiovascular system [3] and the investigation of circulatory assist devices effect [4]. The use of the mentioned devices is onerous and limited by the infection, haemorrhagic and thrombotic episodes that occur in a significant number of patients. Therefore, in clinical practice physicians direct their efforts to decrease both, morbidity and mortality through pharmacological interventions [5] and other preventive measures.

The research of Li and Li [1], demonstrated that heart rate is independently associated with increased all-cause mortality in heart failure patient with sinus rhythm and a significant improvement of mortality could be obtained reducing heart rate through beta-blocker administration. Therefore, an improvement of the ominous prognosis of heart failure patients with sinus rhythm could be obtained using a low cost effectiveness treatment.

Eastern medicine seeks treatments that aid the body's innate ability to heal itself. Findings reported by Shijun Li and Xiaoying Li are congruent with this philosophy, that in this case could be used in any setting.

## References

- Li S, Li X. Prognostic significance of heart rate and beta-blocker use in sinus rhythm in patients with heart failure and preserved ejection fraction. High Blood Press Cardiovasc Prev. 2019. https ://doi.org/10.1007/s40292-019-00341-5.
- Piccinni C, Antonazzo IC, Simonetti M, Mennuni MG, Parretti D, Cricelli C, Colombo D, Nica M, Cricelli I, Lapi F. The burden of chronic heart failure in primary care in Italy. High Blood Press Cardiovasc Prev. 2017;24(2):171–8. https://doi.org/10.1007/s4029 2-017-0193-4 (Epub 2017 Mar 21).
- Armentano RL, Cabrera Fischer EI, Cymberknop LJ. Biomechanical modeling of the cardiovascular system. IPEM-IOP series in physics and engineering in medicine and biology. Bristol: IOP Publishing; 2019.
- Wray S, Lascano E, Negroni J, Cabrera Fischer EI. Assessment of intra-aortic counterpulsation in an animal model of heart failure and myocardial ischemia. Artif Organs. 2019;43(3):E28–40. https ://doi.org/10.1111/aor.13340 (Epub 2018 Oct 31).
- Muiesan ML, Paini A, Agabiti Rosei C, Bertacchini F, Stassaldi D, Salvetti M. Current pharmacological therapies in heart failure patients. High Blood Press Cardiovasc Prev. 2017;24(2):107–14. https://doi.org/10.1007/s40292-017-0194-3 (Epub 2017 Mar 27).

Edmundo Cabrera Fischer efischer@favaloro.edu.ar

<sup>&</sup>lt;sup>1</sup> IMETTYB Favaloro University-CONICET, Buenos Aires, Argentina