**Title page**

# Title: Letter to the Editor: Pre-implant right ventricular free wall strain predicts post-LVAD right heart failure

# Article type: Letter to the editor

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**Letter:**

To the Editor,

We read the article "Pre-implant right ventricular free wall strain predicts post-LVAD right heart failure" by Keith A. Dufendach et al.1 with great interest. It was effective and featured both a practical and a convenient conclusion. We agreed with the article's conclusion that right ventricular free wall strain before installation predicts right ventricular failure in the first year after left ventricular assist device placement. While we applaud the authors' efforts, we would like to make a few more observations about the study's validity.

Firstly, the authors used a smaller sample size, which reduces the study's power and raises questions about the validity of the results in this multivariable analysis. Second, the authors did not specify which diagnostic criteria were used to diagnose patients with right ventricular failure. For example, a 2014 study by Mihalis Argiriou et al.2 used a broad diagnostic criterion to confirm that the patient had been affected with the right ventricular disorder. Finally, the authors suggested no risk rating systems for assessing the right ventricle prior to the implantation of a left ventricular assist device. Although several risk scoring systems have been developed to evaluate the risk of right ventricular failure after implantation of an LVAD, none have been prospectively verified in heart failure patient populations.2,3. As a result, the authors should have investigated a variety of parameters and risk scores to improve RVF prediction. Fourth, the authors should have included other variables in the baseline characteristics of patients that provide essential information about the patients' cardiac health, as they may have an impact. Similarly, Katherine Lietz et al.4 reported the percentage of Ischemic heart failure, serum sodium, concomitant drugs, New York Heart Association class, serum albumin, and estimated glomerular filtration rate in 2007 research, which gave helpful information on liver and renal function. Even though the authors included only a few statistics on mortality percentiles, they should have included information on the numerous causes of death so that preventive efforts can avoid significant causes. Deaths could be caused by sepsis, multiorgan failure, stroke, LVAD failure, right heart failure, technical causes, hemorrhage, or arrhythmia.4

Finally, since the first devices were utilized as a bridge to transplantation, the enormous impact of patient selection on the results of LVAD surgery has been recognized. Implants conducted in patients with severe functional impairment, end-organ dysfunction, right ventricular failure, starvation, or infection have repeatedly been associated with negative results, regardless of the kind of device. The probabilistic risk assessment for in-hospital fatalities following LVAD operations derived for each patient from the hazard ratios of the most significant of the above factors. On the other hand, patient selection is crucial to a successful surgical outcome. It is also worth noting that the degree of heart failure measured by blood pressure, LVEF, cardiac index, or pulmonary capillary wedge pressure has nothing to do with the likelihood of LVAD operation.4

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