Reviewer's report

Title: Reduced fractional shortening of right ventricular outflow tract is associated with adverse outcomes in patients with left ventricular dysfunction

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Reviewer: Per Lindqvist

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Review for Cardiovascular Ultrasound

Re: " Re: 'Reduced fractional shortening of right ventricular outflow tract is associated with adverse outcomes in patients with left ventricular dysfunction', by Masashi Yamaguchi et al.

The aim of the study was to:

1. Evaluate RVOT-fractional shortening (FS) with the clinical, laboratory and echocardiographic parameters.

2. Examine if the measurement of RVOT-FS is a useful parameter providing predictive value in these patients.

The authors concluded that RVOT-FS can determine the severity of dysfunction of both the right and left ventricle in LV systolic dysfunction.

The study might be of importance for the journal readers as it suggests a simple echocardiographic method, previously described to assess regional right ventricular function, useful in identifying patients with adverse outcome, particularly those with left ventricular systolic dysfunction (LVEF<40%). However, to accept such statement a number of issues must be clarified.

Major issues;

-How were the patients selected? Based on LVEF less than 40% or on clinical symptoms?

-What was the aim for angiography, scintigraphy, PET, MRI and biopsy, which were used in addition to echocardiography?

-How did the authors define the diastolic and systolic RVOT dimension? The reference used in the manuscript is based on M-mode measure and ECG.

-How was the echo data described, as a mean of how many measures, especially in the 23% with atrial fibrillation

-To compare RVOT-FS using echocardiography and MRI a Bland-Altman plot should be used.
Regional RV function (RVOT-FS) is shown to have prognostic value in HF and to be related to LV size and function, how do the authors explain this relationship and what is the likely mechanism behind the relationship between RVOT-FS and LV function? The findings should be discussed in the light of the this reference which highlights the role of the aortic root motion in determining the stroke volume.


**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests' below