Reviewer’s report

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

Version: 2 Date: 14 April 2013

Reviewer: Albert Varga

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The aim of the Authors of the present study was to assess the usefulness of the evaluation of right ventricular outflow tract fractional shortening (RVOT-FS) measured by 2D echocardiography in patients with left ventricular dysfunction and to assess the prognostic value of the parameter. They studied 81 patients with impaired left ventricular ejection fraction with echocardiography and concluded that RVOT-FS might be a useful and simple parameter describing the dysfunction of both ventricles and with an additional prognostic power.

I have the following comments and questions:

Major comments

1. Although the Authors excluded patients with some pathologies (such as acute myocarditis or end stage renal disease, etc.) the patient population is still heterogeneous. This should be acknowledged in the limitation section.

2. My major concern is the selection of variables for univariate and multivariate analysis. There are couple of variables which are not tightly linked to left ventricular systolic dysfunction (such as LVD or IVSD, etc) therefore I don’t understand the inclusion of these parameters into the analysis. Although, some of these variables correlated with the RVOT-FS this correlation is not explained in the discussion.

3. In the univariate regression analysis IVSTd and LPWTd emerged as predictors of follow-up events. Please, give an explanation.

4. It has been reported, that 17 patients were in NYHA class II and IV. How many patients were in NYHA class I and II? It would be very interesting to see the correlation of NYHA classes, BNO and RVOT-FS.

5. The majority of the correlations are statistically significant but only moderate and the specificity of the chosen cut-off value is disappointingly low. Please, comment!

6. The discussion section is in some parts speculative, should be rewritten and expanded. Please, focus on the explanation of the pathophysiological and clinical relevance of the investigated parameters.

7. Results section, first paragraph: don’t repeat the data presented in table 1.

Minor comments
8. Table 2 is useless.

9. The title of table 3 and table 5 should be rewritten, since the tables contain not only clinical but also echocardiographic variables.

10. I would welcome more figures (some figures about the correlations of BNP and RVOT-FS, etc.)

**Level of interest:** An article of limited interest

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests