Reviewer's report

Title: Global LV load in asymptomatic aortic stenosis: covariates and prognostic implication (the SEAS trial)

Version: 1 Date: 6 July 2012

Reviewer: Francesco FAC Antonini Canterin

Reviewer's report:

The authors evaluated the prognostic significance of global left ventricular load (Zva) in patients with mild to moderate, asymptomatic aortic stenosis enrolled in the SEAS study. The main conclusion, as expected, is that high Zva is common in older hypertensive women with concentric LV geometry and impaired LV systolic function, features that explain most of the impaired prognosis associated with higher global LV load.

There are some major concerns.

1. Since most events are valve replacements, it is clear that direct parameters of AS severity (peak velocity, valve area,...) are superior as “prognostic markers” in a population with mild-to-moderate AS. In these patients Zva is mostly related to hypertension.

2. The calculation of Zva from Teichholz volumes is rough and confounding as confirmed by the great difference with Doppler calculations. It should be simply eliminated from the analysis. In addition no information about mitral regurgitation is provided (in these patients with small ventricles even mild MR reduces significantly the stroke volume).

3. It is very difficult to understand why patients with higher Zva have inferior LV mass index and prevalence of hypertrophy.

Minor comments.

1. The calculation of “net gradient” should be better described. All recent papers on Zva are not considering the diameter of supravalvular aorta.

2. References 6 and 9 are redundant.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I have not conflicts of interest.