Reviewer's report

Title: Mitral annular systolic velocity as a marker of preclinical systolic dysfunction among patients with arterial hypertension

Version: 1 Date: 11 September 2012

Reviewer: Fabian Knebel

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Minor Essential Revisions

As the authors state, the topic of the study and the main findings are not new and innovative. However, there are some interesting aspects of this work.

The measurement of S’ in pw-TDI in all patients with hypertension presenting to the echo-lab should be encouraged. To my experience, a average pw-S’ at the basal septum is around 6-8 cm/s. I am somewaht astonished by the values presented in the study (around 10 cm/s). Possibly, this is due to the manufacturer of the echo machine in this study (Aloka), that is different from our echo machines (GE). Please clarify this point.

The suggested cut-off values to differentiate mild and severe systolic dysfunction might not be very helpful in everyday practice becase the exact measurement (millimeter) is not possible.

Specific comments:

Methods:
How was diabetes excluded (blood glucose, HbA1c, history)?
How was „preserved ejection fraction“ defined (> 60%, >50%, > 45%??)
Why was the ICC (intra class coefficient) not used, like in most other studies?
The inter- and intra observer variability is between 8-13%. This should be presented in more detail for septal, lateral and mean values with the correponding ICC.

Results:
It would be helpful to have an illustration of the measurement of S’ in the basal septum. Please add an original recording, and the placement of the region of interest and the exact point of measurement of S’.

The strength of the study ist he analysis of the incremental changes - and not the classification of the degrees of systolic dysfunction. A prospective study must elucidate whether a different therapeutic strategy should be offered to the different patient groups. This should be underlined in the discussion.
Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

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