Reviewer's report

Title: Attempt to Discriminate The Single Powerful Ultrasound Quantitative Parameter for Predicting Significant Coronary Stenosis Failed

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Reviewer: Lauro Cortigiani

Reviewer's report:

The Authors investigated the diagnostic value of several parameters derived by pulsed wave Doppler myocardial imaging, color coded Doppler myocardial imaging, and speckle tracking myocardial imaging applied simultaneously during dobutamine-atropine stress echocardiography in 151 patients with no prior infarction. A vessel stenosis >50% was the criterion for significant CAD. No single quantitative parameter applicable in each myocardial segment demonstrated powerful diagnostic capability (AUC from 0.60 to 0.67). In addition, the diagnostic information derived by combining several velocity and strain/strain rate parameters into integrated regression model was at least comparable to that of standard visual assessment.

These results are of potential clinical interest, evidencing the inability by new time-consuming technology to improve the performance of visual analysis of regional function during stress echo.

Comments.

1. The paper is too long and difficult to read. I suggest to shorten it consistently, avoiding to repeat in the result section data already reported in the tables. Furthermore, the discussion should focused on the main results obtained and their implication in clinical practice.

2. It is unclear what was the overall diagnostic value of dobutamine stress. Please, provide the number of ischemic results in the study group as well the sensitivity, specificity and accuracy of the test.

3. Please clarify when the test was interrupted (all patients seem to have reached the highest dose)

4. Coronary angiography is an imperfect gold standard but it may be even worse if set at 50% (visual assessment). All the data should be recalculated by using the conventional 70-75% stenosis severity

5. The overall massage of the study is clear and important but it should be given and written in a clearer way.

Level of interest: An article of importance in its field

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'