Reviewer's report

**Title:** Incremental value of contrast myocardial perfusion to detect intermediate versus severe coronary artery stenosis during stress-echocardiography.

**Version:** 1  **Date:** 9 April 2010

**Reviewer:** Lauro Cortigiani

**Reviewer's report:**

In this study, Gaibazzi et al compared the diagnostic value of contrast myocardial perfusion imaging (MPI) and dipyridamole-atropine stress echocardiography (DASE) in 150 chest pain patients, 30% of whom had resting LVEF <50%. Compared to DASE, MPI showed superior sensitivity, particularly in subjects with intermediate coronary lesion, but markedly lower specificity independently by the grade of vessel stenosis.

Specific comments.

- The Authors should be better clarify the clinical implications deriving from their results. In fact, the choice of a diagnostic technique should be governed by 3 major issues: the risk associated, the economical implication and the clinical benefit. As for the risk, it has been definitely reported that contrast agents are not completely safe (FDA ALERT 10/2007.http://www.fda.gov/cder/drug/Infosheets/HCP/microbubbleHCP.htm). Moreover, their use imply an obvious extra cost as compared to standard testing. From a clinical standpoint, the incremental diagnostic information demonstrated by contrast in patients with intermediate coronary stenosis seems not to justify this. Indeed, the high rate of false positive MPI studies may lead to unnecessary angiographies further inflating risks and costs. These limitations of contrast should be extensively discussed.

- Please, add in Table 1 the frequencies of arterial hypertension and resting wall motion abnormalities in the different CAD groups.

- It would be nice to compare the diagnostic value of MPI and DASE in hypertensives and normotensives as well as in patients with and without resting wall motion abnormalities.

- In the current study, the specificity of DASE was markedly lower (83% in the severe group, 74% in the intermediate group) than that previously reported (>90%). Perhaps it was attributable to the adoption of non-conservative reading criteria for wall motion analysis (at least 1 dysfunctional segment as criterion for ischemia, mild hypokinesia was considered, isolate inferolateral hypokinesia was considered …) ? Please, clarify.

**Level of interest:** An article whose findings are important to those with closely related research interests
Quality of written English: Acceptable

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

Declaration of competing interests:

I declare that I have no competing interests.