Reviewer's report

Title: Non-uniform Recovery of Left Ventricular Transmural Mechanics in ST-segment Elevation Myocardial Infarction

Version: 1 Date: 12 June 2010

Reviewer: rita bucalo

Reviewer's report:

Dear Dr Sengupta,

The aim of the study "Non-uniform Recovery of Left Ventricular Transmural Mechanics in ST-segment Elevation Myocardial Infarction" was to explore left ventricular (LV) transmural mechanics in patients with ST-segment elevation myocardial infarction (STEMI) and who underwent to primary percutaneous coronary intervention (PCI). Moreover, the authors’ purposes were to understand the mechanism underlying recovery of global LV function after primary PCI and detect new echocardiographic markers which could predict this improvement.

In the clinical practice the echocardiographic evaluation has a key role in the management of the patients who experienced STEMI, in the acute phase and during the follow-up.

The reviewer’s opinion is that it could be very useful to predict LV global function recovery, in order to optimize the clinical and therapeutic management, especially in the population with worse prognosis. Therefore, this reviewer believes that the study offers an interesting approach in this field of research and could be of potential interest for the scientific community. The study is led elegantly, the methods are appropriate and well described and both discussion and conclusions are well balanced and adequately supported by data. Hence, only a minor essential revision and few discretionary revisions would be useful before the paper could be considered for publication in Cardiovascular Ultrasound.

- Minor Essential Revisions:

1. The reviewer believes that the Authors should implement their results showing the compliance to the therapy during the follow-up in the unrolled population, because of its potential role in preventing heart remodelling and improving global LV function. In fact, the reviewer’s opinion is that an eventual difference among the two groups could influence the results.

- Discretionary Revisions

1. The reviewer’s opinion is that it could be useful to integrate the results with the data of PCI and indicate also any difference in term of successful
revascularization among the two groups.

2. The Authors properly showed in table 1 the percentage and the statistically significant differences among the two groups in term of diabetes, hypertension and diastolic blood pressure; the reviewer believes that these data should be reported extensively in the manuscript.

Best regards

**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 declare that I have no competing interests