Reviewer's report

Title: Improved clinical outcome after invasive management of patients with recent myocardial infarction and proven myocardial viability: Primary results of a randomized controlled trial (VIAMI-trial)

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Reviewer: Marieke Fokkema

Reviewer's report:

In this article authors describe the results of the VIAMI trial. In this trial, STEMI patients not treated with primary PCI in the first 48 hours after symptom onset were evaluated for myocardial viability by dobutamine echocardiography. A total of 216 patients with viable myocardium were randomised to invasive treatment with primary PCI or CABG, or to conservative treatment. Patients invasively treated had less often unstable angina or revascularization procedures 1 year after STEMI than patients treated conservatively after STEMI.

Major:
1. Describe the clinical relevance of this trial. In a time period of 5 years, 216 patients were included in a total of 11 hospitals. In what kind of patients the evaluation of myocardial viability should play a role in clinical decision making?
2. Please explain why the patients in this study were not treated with primary PCI in the first hours after symptom onset. Did they all present late? In current guidelines primary PCI is the preferred treatment strategy.
3. It may be better to remove the per protocol analysis. It is statistically not acceptable that events are excluded in the invasive group, but not in the conservative group, as described on page 12.
4. Half of the randomised patients were treated with thrombolysis. What kind of medical therapy did the other patients receive?
5. In how many invasively and conservatively treated patients a total occluded coronary artery was present during coronary angiography? Do you have data about the presence of collaterals?

Minor:
1. What is the definition of stable during the first 48 hours? Does this mean they had no chest pain?
2. Clearly describe how the viability testing was performed, at what time after symptom onset and what dose dobutamine was used?
3. How many patients in the invasive group underwent revascularization and for what reason? Please add the invasive group to table 5.
4. On page 13 it is described that 27.3% of conservative patients underwent revascularization. In table 5 the total number of revascularizations is 35 (31.8%).
**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

No competing interests.