Reviewer’s report

Title: Impact of completeness of revascularization by coronary intervention on exercise capacity early after acute ST-elevation myocardial infarction

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Reviewer: Italo Porto

Reviewer’s report:

- Major Compulsory Revisions: The authors have responded to my previous Nº1 comment (Basically, the authors are comparing patients who were revascularized completely or incompletely, but always according to optimal clinicians’ judgment. They essentially show that clinical judgment is better than looking simply at angiographic significance of any stenosis in any vessel to decide whether to stent or not these patients. There is no mention of checking the functional significance of these stenoses (eg. FFR them) or, at least, of QCA. Stenosis significance is said to be >70% (in which projection? decided by who?). QCA data should be provided as a minimum.) by providing the QCA data of a subgroup of 254 intermediate stenosis, and showing that they could not find any difference in the interpretation of stenosis severity between eyeballing and QCA. They used chi-square test, which is wrong (Cohen’s K should have been used). There is no mention of the fundamental issue: as the patients were not randomised, they are comparing patients who they judged worthy of complete revascularisation with patients they judged not worthy of complete revascularisation. No data on the functional importance of these stenoses are provided. Again, this fundamental bias should be fully acknowledged and discussed. We are comparing two groups of very different patients.

2) As for the second point, I do not agree on the usefulness of the Gensini Score (which is a score of angiographic extension of atherosclerosis) to evaluate the jeopardized myocardium. Another score such as the Duke Jeopardy Score, the Myocardial Jeopardy Index from the Bypass Angioplasty Revascularization Investigation (BARI) Score, or the Alberta Provincial Project for Outcome Assessment in Coronary Heart Disease (APPROACH) Score must be calculated to have any idea of the myocardium at risk. It should also be noted that the amount of myocardium at risk is an important predictor of the functional significance of a coronary stenosis (Leone, Porto Circulatoin Intv 2013) in a study in which a jeopardy score was used. It seems that the revascularised and non-revascularised patients had similar, and high, Gensini scores (does this also include the culprit lesion in STEMI?). My opinion is that the amount of jeopardized myocardium in patients who were or were not subsequently revascularised (excluding the IMA culprit lesion) must be provided. Moreover, the amount of myocardium at risk after incomplete revascularisations must be acknowledged and correlated with ischemic endpoints.
**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**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