Reviewer's report

Title: Remote ischemic conditioning in ST-elevation myocardial infarction as adjuvant to primary angioplasty (RIC-STEMI): study protocol for a randomized controlled trial.

Version: 2 Date: 2 June 2015

Reviewer: Yi-Heng Li

Reviewer's report:

The major purpose of this clinical trial is to study the effect of remote ischemic conditioning (RIC), through short cycles of ischemia-reperfusion applied to a limb, on the clinical outcomes in patients with acute ST segment elevation myocardial infarction (STEMI). The investigators hypothesized that RIC will reduce adverse events related to STEMI when applied as adjunctive therapy to primary percutaneous coronary intervention (PCI). In this clinical trial, the primary endpoint is a combined endpoint of cardiac death or hospitalization for heart failure on follow-up. The secondary endpoints are myocardial infarction size, development of Q-wave, left ventricular function, contrast-induced nephropathy, in-hospital mortality, all-cause mortality and major adverse cardiovascular events.

The major drawback of this trial is that it is not novel. Various clinical trials results have already been published about the beneficial effects of RIC in STEMI patients. These study results have shown that, in addition to increase ST segment resolution and decrease infarct size, RIC might also reduce major adverse cardiac and cerebrovascular events after primary PCI (Eur Heart J. 2014 Jan;35:168-75. JACC Cardiovasc Interv. 2013 Oct;6:1055-63. JACC Cardiovasc Interv. 2010 Jan;3:49-55.). The results of most primary and secondary endpoints designed in this clinical trial have already been reported. It seems that the study design and expected results in this clinical trial could not add anything new in this study field.

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:
I declare that I have no competing interests.