Reviewer’s report

Title: The Acute Effect of Beta-Guanidinopropionic Acid versus Creatine in Healthy Men (ABC Trial): Study Protocol of a Randomised, Placebo Controlled, Triple Blind, Double Dummy, Clinical Trial

Version: 2
Date: 17 November 2014
Reviewer: Joanne Ingwall

Reviewer’s report:

Creatine kinase (CK), a highly abundant protein found in excitable tissues including brain and skeletal and cardiac muscles, is a major player in bioenergetics encompassing cell division all the way to contraction. The authors have evidence in animal models of hypertension that slowing the CK reaction by feeding GPA, a competitive inhibitor of the CK reaction, lowers blood pressure. The trial will compare the effects of GPA, creatine and placebo on blood pressure in man.

The trial report would be greatly improved if the following additional information were presented. Including such information will substantially add to the appreciation of the possible significance of the results.

1. As the key animal results are published only in abstract form, the data providing the rationale for the trial should be fully given.
2. The authors should make it very clear when they are discussing plasma/blood levels vs. tissue levels and, when the later, which tissue.
3. As CK exists as a family of tissue- and organellar-specific isoenzymes, which isozyme accumulates in the plasma/blood should be specified.
4. Are any other markers of cell integrity possible to add to the design?

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 have no competing interests.