Reviewer's report

Title: L-carnitine ameliorated fasting-induced fatigue, hunger, and metabolic abnormalities in patients with metabolic syndrome: a randomized controlled study

Version: 1 Date: 23 July 2014

Reviewer: Andreas Michalsen

Reviewer's report:

the study deals with a very interesting topic, fasting therapy, and the Impact of an additive Intervention, namely L-Carnitine.

Major Compulsory Revisions

As it stands this is more an explorative pilot study. There is no sample size calculation and no predefined primary endpoint.

There should be a CONSORT diagram showing the Patient flow.

How were missing data handled? Please clarify

A major limitation of this study is that only one group received injections, which have a known profound unspecific or placelike effect. Thus, it is not surprising that all psychological outcomes are better in this group. The authors should critically discuss this important limitation and compare their effect on mood and fatigue with the effect sizes of placebo injections found in other metabolic or psychological studies.

It seems that despite randomization the two groups were quite different regarding blood pressure. Even though the control group was leaner they had higher blood pressure. Please clarify if there was any medication interacting.

Minor:

The discussion regarding the role of carnitin in fat burning and weight loss should be more detailed and more critical.

Also the authors should discuss more in detail their findings regarding mood and psychological well-being during fasting in relation to the existing abundant literature.

Finally, the literature should be better checked and re-evaluated. For example, Ref 26 seems to be not appropriate.

The discussion of the results should be generally more prudent considering that the findings are based on a small explorative unblinded study.

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