Reviewer’s report

Title: Daily egg consumption in hyperlipidemic adults - Effects on endothelial function and cardiovascular risk

Version: 2 Date: 30 March 2010

Reviewer: Michael Shechter

Reviewer’s report:

There are still unclear questions:

Original question:

3. The authors should also provide the baseline brachial artery diameter (in mm) since FMD is usually inversely related to the brachial artery diameter (S. Schroeder, MD, Enderle, A, Baumbach, et al. Influence of vessel size, age and body mass index on the flow-mediated dilatation (%FMD) of the brachial artery. Int J Cardiol. 76 (2000) 219-225).

- Authors provided a baseline brachial artery diameter of 0.40 +/- 0.08 mm which I think is not a detectable value. Authors should look again at their results.
- Still I see no baseline brachial artery diameter values before/after egg/sausage & cheese. These data should be provided in the text/table.

4. Did the authors find any correlation between total- or LDL-cholesterol and FMD? Did the authors control their findings to concomitant medications and or other variables which could affect FMD (such as lipoproteins, age, sex, hypertension, etc.)? Some studies have found an association between LDL change and FMD (Shechter M, et al. Improvement in endothelium-dependent brachial artery flow-mediated vasodilation with low-density lipoprotein cholesterol levels < 100 mg/dl. Am J Cardiol 2000;86:1256-1259).

- Authors replied to this question: "In a regression analysis we controlled for demographic information, lipoproteins and blood pressure". This is not enough. Some of the subjects in the study had morbid obesity and some had lower BMI (in Table 2 the range of BMI from 20.4 to 38.4). In addition some were hypertensive subjects (SBP> 140 mmHg; DBP>90 mmHg) and age. I see no controlling for these variables. These variables can impact the results, especially when study population is relatively small. Authors should provide the data.

12. Did subjects undergo blood withdrawal on the same day as the BART? When exactly in relation to the FMD?

- The authors replied: "Yes, our participants underwent blood withdrawal on the same day as the BART". The point is what exact time in relation to the BART was the blood withdrawal since any irritation of the blood vessels PRIOR the BART could potentially impact the endothelial function results. Authors should be more specific and add this in the text.
Level of interest: An article of outstanding merit and interest in its field

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'