Reviewer's report

Title: Systematic study of the effects of lowering low-density lipoprotein-cholesterol on regression of coronary atherosclerotic plaques using intravascular ultrasound in Western and Asian

Version: 3
Date: 27 October 2014
Reviewer: Alicia Quirós

Reviewer's report:

This manuscript extends previous findings (reference number [3] in the manuscript's reference list), with the aim of assess the difference between Asian and Western people with respect to the cause-effect relationship between the cholesterol level decrease and coronary atherosclerotic plaque reduction.

Prior to consider this manuscript for its publication, there are several issues that should be addressed, of which I will mention here the main ones. First, it is not clear to me that the research question has been properly assessed in this manuscript, either because it is not clearly posed or because the method is not correctly chosen. Second, the contribution of the findings reported in this manuscript has to be evaluated, in order to determine whether this paper adds something relevant to the already published results in [3].

The manuscript have several methodological parts that have already been reviewed in [3], such us search strategy or inclusion and exclusion criteria. However, there is still place for improvement. Please find a detailed list of issues to consider below:

Discretionary Revisions
1. In the title, use 'systematic review' instead of 'systematic study'
2. When citing references, please do it in order
3. In line 106, it is the first time that CHD appear, please define
4. Please use alphabetical ordering in the list of abbreviations
5. The manuscript would benefit from a careful review of the written English

Minor Essential Revisions
1. According to [A], the I2 suffers the same problem as the Q test in terms of statistical power, especially with a small number of studies (k<20). Please report I2 statistic value and CI.
2. No quality assessment is reported. Has the methodological quality of the studies been checked?
3. Heterogeneity has been properly investigated in each subgroup analysis although I missed a global heterogeneity check. Would it be possible to get a funnel plot? This can be added in line 110.
Mayor Compulsory Revisions

1. Research question: The research question as it is posed at the end of the Background section is divided into two questions and the therapy is used as a general term although the type and dose is studied in the results section. I would recommend the authors to expand this paragraph so that the research question is clearly stated. Besides, it should match with the ideas outlined in the conclusions section. As stated in [B], a well-framed clinical question must include a population, intervention, comparator and outcome, as well as design.

2. Methodology and study design: A comparison between groups is not considered although it is the main goal of the article… The conclusion may not be valid. The statistical method for the assessment of the difference between Asian and Western populations is not stated in the part devoted to describe the methods. The results shown are not sufficient (and do not seem to support) the main conclusion: 'There was a different effect of LDL-C lowering on CAP between Westerns and Asians'. How did you compare the effect between the two populations?

3. Confounders: Could follow-up duration be a confounder? It is clearly associated to race and the authors affirm that treatment duration might have some effect on CAP regression. Make sure there are no other confounders. The last conclusion of the abstract could be a spurious conclusion, taking into account that there might be confounding factors related to the mentioned difference, such as associated BMI or difference in clinical practice/guidelines.

4. Clinical relevance of the results: Are the reductions reported clinically relevant? Statistical significance does not mean clinical relevance.

5. Contribution: Most of the results reported are equal to the ones reported in [3]. It is not clear to me the added contribution of this article to the results reported in [3].


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: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
I declare that I have no competing interests