Reviewer’s report

Title: Effects of a 3-year dietary intervention on age-related changes in triglyceride and apolipoprotein A-V levels in patients with impaired fasting glucose or new-onset type 2 diabetes as a function of the APOA5 -1131T>C polymorphism: randomized, open label, controlled study

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Reviewer: sybil charriere

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Kim. Et al. presents an article untitled “Effects of a 3-year dietary intervention on age-related changes in triglyceride and apolipoprotein A-V levels in patients with impaired fasting glucose or new-onset type 2 diabetes as a function of the APOA5 -1131T>C polymorphism: randomized, open label, controlled study”

Even if, there are interesting results in this study that showed potential interaction between an intervention diet to reduce TG and -1131T>C genotypes in Korean subjects on triglycerides, major points have to be revised.

Major Compulsory Revisions

1/ Methods

This study is presented to be a randomized, open label, controlled study, in the title but in the study methods, it is neither a randomised study nor a controlled study. A group of 203 subjects was submitted to the same diet during 3 years, with no randomisation between two diets or an intervention diet compared to a control diet.

The title of the article is consequently inaccuracy.

A control diet should have been very interesting to test the spontaneous TG and diabetes progression, and the genotype effect.

Moreover, the authors said that “a total of 203 subjects completed the study”. How many subjects were included at baseline and which percentage achieved the study?

2/ the study involved subjects with impaired fasting glucose (IFG) or new onset type 2 diabetes.

How many subjects were in each group and were there differences between genotypes subgroups?

How many subjects with IFG became type 2 diabetic patients during the 3 year follow-up and were there differences between genotypes subgroups?
At the end of the article (p16, l 349), the authors said that their results suggest that “the C allele contributes to the progression of diabetes”. The conclusion is not demonstrated in their results and should be modified.

Minor Essential Revisions

1/ p 15, line 335.
There is a mistake in the discussion.
The C allele of -1131T>C polymorphism is not associated with a ribosomal translation efficiency. In literature, it is clearly showed that -1131T>C polymorphism is in strong linkage disequilibrium with 3 additional polymorphism : -3A>G, SNP2 and SNP1). It is
-3A>G polymorphism, located in a Kozak sequence that has been possibly associated with a defect in translation efficiency but not confirmed up to date (Palmen et al.Biochim Biophys Acta 2008: 1782, 447-452).

2/ The association between apoAV level and TG levels in human is not clearly discussed, and compared to mice. Results are conflicting in literature with some positive and some negative correlations.
An interesting recent study should be discussed (Kim et al. J Clin Lipid 2013. 7, 94-101). This study showed an inverse correlation between apoAV and TG in -1131 TC and CC genotypes as in this study in 754 hypertriglyceridemic patients.
Could the authors give the correlation between apoAV and TG in each genotypes groups ?

3/ page 11 line 237
CC:16.71+/-16.11.
Is it 16.71 or -16.71 as suggested in figure 1 ?

4/ the paragraph about relationship in plasma apoAv and metabolic parameters is difficult to understand and redundant with table 3. It needs to be clarified.

5/ in the abstract ba-PWV and MDA should be explained.

Quality of written English: Needs some language corrections before being published

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