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: Semon Wu

Reviewer's report:

The current manuscript authored by Minjoo Kim et al. described “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”.

Authors analyzed the effects of a 3-year dietary intervention on age-related changes in triglyceride and apolipoprotein (apo A-V) levels in patients with impaired fasting glucose (IFG) or new-onset type 2 diabetes as a function of the APOA5 -1131T>C polymorphism. Author also showed that the dietary intervention prevented an age-related increase in triglyceride levels in individuals with IFG or new-onset type 2 diabetes who possess the TT allele, but not the CT or CC allele, of the APOA5 -1131T>C polymorphism. The results seem sound and the methods used are in general valid.

However, there’re several comments as below:

Major Compulsory Revisions:
1. Add the results about the independent predictor of triglyceride changes.
2. The LDL-cholesterol was calculated by using the formula of Friedewald; therefore, describe the treatment of the subjects with serum TG >400 mg/dL.
3. Do authors have any data on the Coefficient of Variation (CV) for all the biochemical analysis used in the analyses? If available, please include the assay CV information in “Methods” section.
4. The authors performed multiple statistical testing. I strongly believe they needed multiple testing correction rather than using 0.05 for significance.
5. In Table 4. The change in HDL level is an independent predictors of changes in apo A-V levels existed in all subject and also in both TT and C allele carriers. Please add the result and the possible mechanism in “Results section” and “Discussion section”, respectively.

Minor Essential Revisions:
1. Dietary energy values and nutrient content from the 3-day food records were
calculated using the Computer-Aided Nutritional analysis program (CAN pro 2.0, Korean Nutrition Society, Seoul, Korea), add the evidence or the literatures of reference.

2. In page 13, line 280. The “data not shown” must change to “Table 4”.

3. In Table 4, why do the authors exclude the factors: baseline insulin, change in insulin, baseline ba-PWA, change in ba-PWA, baseline MDA, and change in MDA?

Discretionary Revisions: no

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests: No.