Reviewer's report

Title: Postprandial cardiac function in type 2 diabetes and the effect of pre-exercise - a pilot study.

Version: 1

Date: 8 June 2015

Reviewer: Hidetaka Hamasaki

Reviewer's report:

The study entitled "Postprandial cardiac function in type 2 diabetes and the effect of pre-exercise – a pilot study." showed that fast-food induces greater and sustained overall cardiac workload in type 2 diabetes individuals compared to controls, and exercise 16-18 hours pre-meal has no acute effects to the postprandial phase. This study addresses an interesting issue, especially in which they investigated the acute effect of high caloric diet on cardiac function in patients with type 2 diabetes. However, I feel the present study has some problems to clarify the effect of pre-exercise on cardiac function.

Major Compulsory Revisions:

1) The authors put the title as if exercise has some effects on postprandial cardiac function in type 2 diabetes. However, as the authors mentioned, pre-exercise did not influence postprandial cardiac function, heart rate, blood pressure, RPP, and biochemical markers. Therefore, the authors should change the title to avoid a misleading and to focus on the effect of fast-food.

2) According to ref [8] which the authors repeatedly cited in the text, endotherial function in high intensity interval exercise trail and continuous moderate-intensity exercise trial were investigated each other. The present study has also 3 randomised trials (HIIE, MIE and NE). Please describe the study results in each trials and investigate the differences among 3 groups.

3) The study participants have good glycemic control (HbA1c 6.4%). I think that the participants were diagnosed as having early type 2 diabetes, however, the authors should show medication including oral hypoglycemic agents (e.g. metformin), antihypertensive agents (e.g. angiotensin receptor antagonists) and lipid-lowering agents (e.g. statins and fibrates) because these drugs may affect cardiac function. Additionally, the authors should show how they diagnosed type 2 diabetes.

4) The author stated "The diverse findings may be due to different times of measurement..." in the part of Discussion with respect to the increased LV systolic workload after fast-food ingestion in this study. Exercise was performed 16-18 hours before the meal and biochemical measurements were performed 30 minutes, 2 hours and 4 hours after the meal in this study as well as ref [8], but I cannot figure out why the authors make such study protocol. Please tell me the reason, if possible.

5) Why did the authors exclude obese class # and # from study participants?
6) The authors measured serum levels of insulin, LDL-cholesterol, HDL-cholesterol and high sensitive c-reactive protein, however, they did not refer to them in the section of Results. The authors should show the results and discuss.

Minor Essential Revisions:
1) I would suggest that "c-peptide" should be changed to "C-peptide" in page 6, line 2 and 16.
2) I would suggest to insert comma between "insulin" and "C-peptide" in page 7.
3) I would suggest that HDL and LDL should not be abbreviated in page 7.
4) In the section of "Abstract", abbreviations such as e', E, S7 and RPP are not needed.
5) References should be changed to suitable form (Nutrition Journal reference style).

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.