Reviewer's report

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

Version: 1 Date: 11 May 2015

Reviewer: Louise Purtell

Reviewer's report:

This study investigates 1) the postprandial cardiac function in adults with type 2 diabetes compared to BMI-matched controls and 2) the effects of pre-exercise on cardiac function in both groups. The authors found that while there was no effect of pre-exercise, the type 2 diabetes group had greater cardiac workload than controls. While it would have been interesting to see a control meal included to further test the putative fast-food effects, this study is well-designed and generally well written.

Major compulsory revisions:
• There are two separate comparisons in this study: between T2D subjects and controls postprandially and between exercise and non-exercise. While equally as interesting as the first, the second comparison is not given as much weight, possibly due to a lack of significant results. While exercise conditions are already included in the mixed model, and exercise didn’t have an effect on results, it would be illuminating to show at least one figure with the three exercise conditions presented separately for each group.
• Some parameters mentioned in the methods section are not referred to in the results section, figures or discussion (i.e. late diastolic tissue velocity, deceleration time, cholesterol, hs-CRP etc). All parameters assessed should be presented and discussed.

Minor essential revisions:
Abstract
• ‘Prior to-‘ does not need a hyphen.*
• Results – There is a missing end-bracket in the first sentence. I assume it should go after (E). Also, global strain rate should be given its abbreviation here.*
• BMI should be defined here*

Background
• Page3, paragraph 3 – ‘increase in’ should be ‘increased’ or ‘increases in’*
• Page 3, paragraph 5 (last two lines) – should be ‘improvements in endothelial function’*

Methods
• Page 4, paragraph 5 – no hyphen is necessary after cardiovascular*

• Page 5, paragraph 1 – please define ‘resting (>48 h); presumably they refrained from exercise rather than rested the whole time?

• Page 5, paragraph 2/page 6, paragraph 1 – Global strain and strain rate should be given their abbreviations.*

• Page 7, paragraph 3 – please describe the methods used for assessing blood glucose, insulin, C-peptide, plasma triglycerides, cholesterols and hs-CRP. There should be a comma after insulin.* HbA1C should be followed by ‘was’.*

• Page 8 – power calculations for determining group size should be described.

Results

• Page 9-11 – as previously stated, all parameters measured should be presented here.

Discretionary revisions:

Abstract

• Methods – Consider deleting ‘randomized’ here; it gives the impression that subjects were randomly assigned to groups or to exercise condition, rather than receiving all 3 exercise conditions in random order.

Discussion

• Page 15, paragraph 2 – in my opinion, the similarity in BMI and WC between groups is a strength of the study rather than a limitation, as it excludes potentially confounding effects of adiposity; consider leaving this out of the discussion of limitations.

* minor issue not for publication

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