Reviewer's report

Title: Evidence of Endothelial Dysfunction in Obese Non-Hypertensive Children

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Reviewer: Aaron S Kelly

Reviewer's report:

Summary:
The authors measured endothelial function in normal weight and obese pre-pubertal children without obstructive sleep apnea syndrome and hypertension. There was no difference between groups in the magnitude of reperfusion. Obese children had delayed reperfusion compared to normal weight peers. The authors conclude that pediatric obesity, independent of OSAS and hypertension, is associated with endothelial dysfunction.

Major Comments:
1. The authors might consider adding OSAS to the title since this is major focus of the paper.
2. It is unlikely that only 60 seconds of occlusion will result in maximal reactive hyperemic blood flow. Therefore, the magnitude of reperfusion was likely underestimated.
3. It is unclear why two tests of endothelial function were performed. Ischemic preconditioning likely influenced the results of the second test.
4. Reproducibility of the endothelial function technique, in this lab, should be presented.
5. Has this technique been validated against coronary blood flow or other standard techniques for measuring endothelial function? Is it nitric oxide-dependent?
6. Statistics: adjustments should be made for age, gender, and race.
7. Importantly, the main conclusion seems flawed and is not supported by the data. There were no differences between groups for magnitude of reactive hyperemia (endothelial function). Although differences in time to peak hyperemia were observed, it is unknown what this means and is unclear if it has any relevance to cardiovascular risk. It may simply be that the obese, because they have more tissue to reperfuse, have a delayed blood flow response.
8. The following comment is too strong based upon the evidence in this study: “…our identification of abnormal endothelial function would suggest that these homeostatic processes have already failed…”

Minor Comments:
1. Figure 2, panel 3: it would be helpful to report the correlation adjusted for
either BMI or body fat.

**Level of interest:** An article of limited interest

**Quality of written English:** Acceptable

**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.