Reviewer’s report

Title: The role of abdominal obesity in explaining the high CRP in Indigenous Australians relative to the general population: a cross-sectional study

Version: 1 Date: 2 June 2010

Reviewer: Kathryn Rose

Reviewer’s report:

Note: Minor essential revisions and preceded by * and major compulsory revisions are preceded by **. All other included comments are discretionary.

**The title does not include a reference to gender. Further, when you state your study aim (to compare CRP in urban Indigenous and the general Australian population) you do not mention gender contrasts. Given that variations in CRP by gender are present and that these differences are highlighted throughout the paper, it would be appropriate to refer to gender in the title and in the aims. You also need to provide a more explicit rationale for the a priori stratification by gender.

*At various times throughout the paper you refer to “study.” The wording is awkward and does not accurately reflect that you are looking at differences in 2 distinct populations.

Methods

Study population:

*-Next to last sentence is confusing as written: Do you mean that the DRUID enrolled 14% of the target population of indigenous persons in the area? If so, sample size per se does not determine whether a sample is representative. In contrast, the strategy used to identify participants is more pertinent. Or do you mean that your response rate was only 14% of those that you sampled. Please clarify.

**-The 66% response rate at follow-up is a bit troubling, given that this is when the CRP measurement took place. Please include a discussion about how these persons differed from the no respondents. Given that sicker persons are more likely to be lost to follow-up, it is likely that the CRP values of the baseline sample may have included persons with less favorable values. Potential biases that this could have introduced should be discussed in the discussion section.

*-Page 6: In the section where you present cut points for CRP categories: some of the > and < need = signs added (as exact values (e.g. 3 and 10 are not included in the categories as written.

**-Given the small numbers in the low BMI category and that some persons with very low Bemis may have serious comorbidities, I find the strategy of combining
the low and medium BMI groups potentially problematic. Thus, I think you should repeat your analyses excluding these persons and add a sentence or two describing the impact this has on your results.

Results

-Page 8: delete the last sentence of paragraph 1 as it is not relevant.

**-Table 2 is not included in the manuscript that was sent. Thus, it is very difficult to evaluate the last section of the results section.

*- You state “in the absence of central obesity....”. Perhaps it would be better to state something like “among those with the smallest waist circumferences.....”

Discussion

**Page 10: You suggest that adipose tissue in women may be more metabolically active in women than in men. However, much of the literature suggests the opposite – that both visceral and subcutaneous fat is more metabolically active in men than in women.

-Page 12: Sentence on Mendelian randomization and genetic variants: delete, as it is unclear how it fits with your current work.

*-Page 12 – The final sentence is vague as written. Elaboration is needed.

**-The limitations of the study need to be better elucidated. These include potential selection biases introduced by not using the baseline participants of the AusDiab study (selective participation and survival issues)

Figures and tables

*-The patterns in the figure legends (in particular the hatching and dots) do not match what actually appears on the figures (all solid colors or lack thereof).

*-The tick marks on the x axes should be omitted.

Figure 1 would work better if oriented like figure 2 (where the distributions are grouped within the 4 study groups vs. by CRP categories).

**As mentioned previously Table 2 is missing, which makes it difficult to evaluate a major section of the

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
I declare that I have no competing interests.