Reviewer's report

Title: Genetic association study of selected candidate genes (APOB, LPL, LEPTIN) and telomere attrition in obese and hypertensive individuals.

Version: 2 Date: 30 January 2009

Reviewer: Veryan Codd

Reviewer's report:

Major compulsory revisions

1. The authors present a preliminary study of the genetic association of three candidate loci with hypertension and obesity. Two of these loci, for ApoB and Leptin, have been studied by other groups in much larger cohorts and have been shown to associate either with hypertension alone (ApoB) or both hypertension and obesity (Leptin). The authors acknowledge these previous studies, but I feel do not adequately indicate how their own work adds to the previous reports. From the discussion section I feel that this is the first study of this genetic association in an Indian population, if this is indeed the aim of this study then the authors would greatly benefit from making this point at the beginning of the manuscript and discussing this throughout. The authors also need to discuss how their data compares to previous studies.

2. The authors investigated mean leucocyte telomere length for both disease groups and controls. Again the authors acknowledge previous studies by others in coronary heart disease but do not acknowledge studies that have specifically investigated association between shorter telomeres and hypertension and obesity. I also feel the manuscript would benefit from a little more background information on telomeres and association of telomere length and disease.

3. Mean leucocyte telomere length has been calculated for each group but no account has been made for age and/or gender. As it is widely reported that telomere length declines with age in cross-sectional studies and that there is a difference between genders, these parameters should be accounted for.

4. At the end of the introduction the authors describe the telomere length PCR assay. Firstly, the description is identical to that given by Mastromonaco et al, 2006 BMC Developmental Biology. Secondly, this is a ddCT calculation (relative quantification) but then the authors go on to describe an absolute quantification method (calculating concentration against a standard curve) in the methods section. The authors need to state clearly which method is used, in their own words, in the methods section.

Minor essential revisions

1. A large amount of genetic data is presented in the results section. Some of this is represented graphically but a large amount is described within the text. I feel that further tabulation of data, such as allele frequencies would allow the authors
to better convey the data and enable them to focus on the key findings more concisely in the text. The authors should also avoid repeating tabulated data within the text unnecessarily.

2. In both the introduction and discussion the authors link telomere attrition to cancer. There is some evidence to suggest that shorter leucocyte telomere length is associated with higher risk of certain cancers but it should be noted that it is the triggering of telomere lengthening pathways (telomerase or ALT) that occurs in cancer cells. Better phrasing and referencing should be used to avoid any confusion, especially in the discussion where the authors state "telomere attrition due to many diseases and cancer is well established".

3. In Figure 2 it should be stated whether the error bars indicate standard deviation or standard error.

4. The authors should make clear which locus they are discussing at the beginning of the second paragraph in the discussion.

5. Reference 6 should read Frossard P.M., Obineche E.N. and Lestringant G.G. as the authors.

Discretionary revisions

1. The authors state in their methods that they have repeated samples readings for quality control purposes. The authors would benefit from stating the correlation between original and repeated values.

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

**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