Reviewer's report

Title: Estrogen Receptor 1 Gene Polymorphisms Are Associated with Metabolic Syndrome in Postmenopausal Women in China

Version: 0 Date: 19 Feb 2018

Reviewer: Kanthi Mathi Sekar

Reviewer's report:

Major Comments:
1. The study groups comprised of 150 subjects with metabolic syndrome (cases) and 154 controls. The study appears to be underpowered due to the sample size, although the authors have mentioned this as the limitation of the study. Authors need to provide the power calculation for the study to substantiate the findings.
2. Correction for multiple testing using Bonferroni should also be mentioned.
3. Although the study subjects were matched for age, the BMI of the cases included in the study is significantly higher than the controls. Therefore the Odds ratio has to be adjusted for BMI to establish the risk better, given that BMI is an independent risk factor for the development of metabolic syndrome. Odds ratio should also be adjusted for the other confounding factors related with the disease.
4. The genotype counts of the AluI SNP of ESR2 gene, as given in the Table 2, does not add up to the total number of Control group (i.e. n=154) included in the study. Moreover their genotype and allelic frequencies do not match with the given genotype count. Therefore, the genotype data has to be reanalyzed for the AluI SNP of ESR2 gene.

Minor Comments:

   In Table 2: The genotype and allele distribution of RsaI and AluI SNPs are given under the subheading ESR1 gene. It is ESR2 and not ESR1.

The manuscript is not acceptable in the current form. It can be resubmitted after major revision along the lines of the above review comments.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.
Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.
Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.
Yes

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If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.
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