Reviewer’s report

Title: Association of a genetic variant in the Angiopoietin-like protein 4 gene with Metabolic Syndrome

Version: 0 Date: 30 Jan 2019

Reviewer: Kent Lai

Reviewer's report:

The authors of this manuscript set out to study the association of a genetic variant rs116843064 in the ANGPTL4 gene in a selected patient population with Metabolic Syndrome (MetS) in Iran.

Overall, the study is interesting and novel with respect to the selected patient population. However, there are some concerns for the data that weaken the overall merit of the study.

(1) In Methods, the authors stated that the study population comprised of 260 MetS patients and 500 healthy subjects. Yet, in Table 1, only 350 non-Mets patients were studied. Moreover, in Table 2, 363 non-MetS subjects were genotyped. Why are all these discrepancies?

(2) In multiple places (abstract, results, etc), the authors stated that the genotype frequency of GG, GA, and AA in MetS group were 83.7%, 15.7%, 6%. If you added these numbers up, you will get more than 100%!

(3) Similarly, for Table 2, if you add up the % for GG, AG, AA for the "Total" and "Non-MetS" columns, you will get more than 100%!

(4) In multiple occasions (Table 1, Table 2), the authors notated the p values as "0.0001>". It will be less confusion to notate it as <0.0001.

(5) For Table 3, it is clearly stated that the data referred to Association between the SNP and serum TG and HDL level in TOTAL POPULATION. But it the results section, the authors stated that
(a) Association of the genetic variant with METABOLIC SYNDROME (line 40)

(b) There relationship between the ANGPTL4 gene ……and HDL level in MetS and non-MetS
groups is presented in Table 3 (lines 57 & 59).

This reviewer strongly suggested that the authors should stratify their Total Population into Mets
and non-MetS groups in Table 3.

**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.

No

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If an additional statistical review is recommended, please specify what aspects require further
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