Reviewer’s report

Title: The association of Val109Asp polymorphic marker of intelectin 1 gene with abdominal obesity in Kyrgyz population

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Reviewer: Timothy Howard

Reviewer's report:

This study examined the association of a SNP in the omentin gene with abdominal obesity in a Kyrgyz population. The authors report that the SNP, Val109Asp (rs2274907) is associated with abdominal obesity, with homozygotes for the Val allele having an increased risk (OR=3.12). The overall concept is fine, but I have concerns with the dated approach that was used, the small sample size, and the over-interpretation of the results.

1) Technically, the method used for SNP genotyping (RFLP) is accurate, and my primary concern is that only one SNP was examined. Abdominal obesity is clearly a multifactorial trait, and in an era of GWAS, next-generation sequencing, and "omics" based analyses, it seems dated to draw much inference from the results of a single SNP.

2) The small sample size also limits enthusiasm for this study. While the results may be statistically significant (although only marginally, p=0.043), this is essentially based on 15 cases and 7 controls who were homozygous for the Val allele. If only one of the control individuals were to change from a heterozygote to a homozygote, or vice versa for the cases, the results would no longer be significant (p=0.07).

3) The interpretation is that this particular SNP is associated with abdominal obesity in this population. This is technically correct based on the statistics (although point 2 above should be considered), but the association is extremely modest, even though the effect size appears large. This could be presented as borderline support of data from previous studies, but the authors appear to put too much emphasis on the result. The authors state that the SNP "...should be considered as an established prognostic marker of developing AO." This is an extreme over-statement for a very modest single SNP association with a complex trait.

Other minor concerns:

1) The official gene name (intelectin 1) and symbol (ITLN1) should be used instead of "omentin."
2) The two alleles should be referred to as "major" and "minor" throughout.

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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I am able to assess the statistics

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