Reviewer's report

Title: Polymorphisms in ADRB2 gene and Graves disease: a case-control study and a meta-analysis of available evidence

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Reviewer: Takuya Awata

Reviewer's report:

In this report, using a middle scale population in Chinese, the authors analyzed a potential association of ADRB2 gene with Graves disease (GD). Although SNPs in ADRB2 were extensively analyzed, I have several concerns about the manuscripts as bellow.

1. The reasons why the authors focused on ADRB2 are not clear. Although ADRB2 was described as an important immunoregulatory factor in the abstract, no description as to the functional role of ADRB2 was seen in the background section. The authors should provide possible rationale for association between ADRB2 and GD.

2. As the authors stated in the manuscript, the sample size was not large and the statistical power was not enough to detect a weak association between the ADRB2 SNP and GD. I do not think the meta-analysis applied in this study is appropriate, since that included only two previous studies in Europeans.

Level of interest: An article of insufficient interest to warrant publication in a scientific/medical journal

Quality of written English: Acceptable

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.