Reviewer's report

Title: Validation study of candidate single nucleotide polymorphisms associated with left ventricular hypertrophy in the Korean population

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This is a replication study of candidate single nucleotide polymorphisms in the Korean population. The authors analyzed 9 of the 12 candidate SNPs from the HyperGEN study in the Korean population and found that the minor allele of rs4129218 had borderline association with lower LVM. Suggesting that rs4129218 on chromosome 12 showed conservation of possibly related loci for LVH independent of ethnic background.

Major Concerns:

Some antihypertensive medication, like ACEI, ARB and even b-blocker, has established effect on the LVH. In this study, a great portion of participants were under antihypertensive medication (483, 29.5%). The effect of antihypertensive medication on LVH should be taken into account. How many were under ACEI, ARB and b-blocker? Also the antihypertensive period should be compared since long term treatment will regress LVH.

In statistics, the author stated "Multiple linear and logistic regressions with an additive model were performed using PLINK 1.07 software (http://pngu.mgh.harvard.edu/purcell/plink) [26], adjusted for covariates, such as age, gender, BMI, systolic BP, heart rate and antihypertensive medication.". Some other factors, such as serum Cr also affect LVH. Why these factors are neglected in this study? Also I would like to see how the authors use antihypertensive medication as confounder factors?

Although this is a validation study, the name and function of selected gene should be briefly mentioned in discussion to make the readers easier to follow.

Minor-----

1. The author stated in method: “3 SNPs from the HyperGEN study (rs1833534, rs4129000 and rs238688) were filtered out because they had a minor allele frequency (MAF) lower than 0.05 in the Chinese and Japanese HapMap database”. Reference is needed here to support this statement.

2. Genotyping methods should be briefly described.