Reviewer's report

Title: Association of FTO-rs9939609 polymorphism with the risk of tuberculosis in a Chinese population

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Reviewer: Thorsten Thye

Reviewer's report:

The authors have analysed genetic variants of the FTO gene with susceptibility to TB in a Chinese case control study group. Strong association was found with one of the two analysed FTO variants.

The sample size is sufficiently powered with 1625 TB cases and 1570 controls to demonstrate statistical significance. However, the authors include people with proven alcohol intake. Alcohol is a well-known predisposing factor for TB, and people with alcohol consumption should be excluded from the analyses.

A major concern with this analysis is the strong deviation from the Hardy-Weinberg Equilibrium of the genotypes of SNP rs9939609. With the presented genotype counts of 1258 x TT, 253 x TA and 72 x AA in the case group the calculated deviation from HWE is $P=10^{-27}$. This strong deviation might indicate either a selection bias or genotyping errors? Therefore the authors should verify the genotyping results for this SNP with a different method.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Not suitable for publication unless extensively edited

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