Reviewer’s report

Title: P53 genetic polymorphisms, interactions with lifestyle factors and lung cancer risk: a case control study in a Chinese population

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Reviewer: David Cox

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In this paper, Li et al. present their findings relative to two polymorphisms in the Tp53 gene and interactions with lifestyle factors and lung cancer risk in a Chinese population. While the hypothesis is sound and fairly well presented, I do have some minor concerns with the paper that need addressing.

Minor Essential Revisions

1) There is no presentation of the context of rs2078486 with respect to the structure and function of the p53 gene. As this SNP is in intron 1, the discussion regarding a putative functional difference of the genotypes needs to be further developed. Furthermore, this SNP is in a large linkage disequilibrium block, and may be tagging influence from one or more SNPs around it. This possibility needs to be developed by the authors.

2) The authors correctly state in the last phrase of the discussion that the number of analyses carried out increases the chance for spurious associations. No attempt at correction for multiple comparisons is made or even discussed, even though the term "significant" is used seven times in the results section.

3) No mention of recall bias is made, which could alter the distribution of established lung cancer risk factors between cases and controls leading to spurious interaction models as well.

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

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests.