Reviewer's report

Title: Lymphotoxin-alpha polymorphisms and prevalence of whole cancer: a study in 1,536 consecutive autopsy cases

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Reviewer: Maria Asuncion A Garcia-Gonzalez

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COMMENTS

In the current study, Takey et al. analyses the association between LTA C804A and T495C gene polymorphisms and prevalence of cancer in the elderly in a study of 1,536 consecutive autopsy cases performed in a Japanese population. According to the authors, carriers of the LTA 804 A allele had a lower cancer risk while carriers of the LTA 495 C allele had a higher risk of developing cancer in the elderly. This association was found in males but not in females. When cancer cases were stratified according to the type of cancer, the LTA 804 A allele was associated with decreased lung cancer risk in males and the LTA 495 C allele was associated with gastric cancer risk in males. The issue addressed in this study is not novel but it is clearly controversial and data reported by the authors will add to data that already exist in the literature supporting associations with particular polymorphisms. However, there are several issues that have to be addressed:

1) Lymphotoxin-alpha (LTA-a) is an extremely pleiotropic factor with potent pro-inflammatory effects that play a major role in nonspecific host defense mechanisms against infectious diseases. However, the link between LTA-α and cancer is not enough sustained in the introduction.

2) Some considerations related to the sample size and the power of the current work should be provided and included in the statistical section.

3) Regarding genetic analysis, no data are provided about quality control.

4) The discussion is rather limited and misses out some potential explanations for their findings.

5) There are several spelling and grammatical mistakes that need to be corrected.

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

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: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests