Reviewer's report

Title: Cruciferous vegetable intake is inversely associated with lung cancer risk among smokers: a case-control study

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Reviewer: Jennifer Lin

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Cruciferous vegetable intake is inversely associated with lung cancer risk among smokers: a case-control study by Tang L et al.

General comments: Intake of cruciferous vegetables has been linked to a lower risk for developing lung cancer. However, the association according to smoking characteristics has rarely been addressed. In this large case-control study, the authors conducted a comprehensive analysis on the association of intakes of fruits, vegetables, and cruciferous vegetables with risk for overall as well as subtypes of lung cancer in relation to smoking behaviors. They observed an inverse association between intakes of vegetables and cruciferous vegetable and lung cancer risk, with the association being more pronounced in never and formal smokers. The study design was appropriate and overall analysis was well-planned and comprehensive. Findings of the lung cancer subtypes are interesting and warrant future confirmation.

1. The authors tend to make strong inferences or assumptions in several places of the text. As most findings are observational and in vitro/in vivo findings have not yet been confirmed in human studies, the authors need to tone down when making inference. Suggest also removing the phrase of “strongly associated” when describing their findings.

2. It is unclear why unconditional rather than conditional logistic regression was used for the analysis given that cases were matched with controls.

3. Discrepancy between findings needs to be addressed. The authors indicated that intake of cruciferous vegetable may be more relevant to smokers given the risk reduction present in smoking-induced lung cancer subtypes. However, intakes of vegetables and cruciferous vegetable were also inversely, albeit not significantly, associated with lung cancer in never smokers.

4. Need to perform interaction tests of smoking status, no. cigarettes, and smoking years with vegetables/fruit/cruciferous vegetable intakes in relation to lung cancer risk and provide p values in the text.

Other specific comments:

5. Information on FFQ validation is not provided.

6. Were controls free of other cancers?
**Level of interest:** An article of importance in its field

**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.