Reviewer's report

Title: Etiological study of esophageal squamous cell carcinoma in an endemic region: a population-based case control study in Huaian, China

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Reviewer: Shunqing Xu

Reviewer's report:

In this manuscript, the authors make a population-based case control study of esophageal squamous cell carcinoma in Huaian, China. The regular epidemiological, food frequency questionnaire as well as genetic polymorphism assessment were employed in this manuscript. They finally draw conclusions that eating fatty meat, eating fast, consuming moldy food, salted and acrid food, pickled vegetables, and other several known common risk factors as risk factors of ESCC. Only one gene were considered associated to ESCC.

General comments:

In this manuscript, authors try to evaluate the association between environmental carcinogens, genetic polymorphisms and ESCC in Huaian, however, 107 newly diagnosed cases and 107 controls were involved in this study and the number of cases and controls is too small to get meaningful and powerful results, which could represent the real situation of this area.

All the risk factors determined in this manuscript are well known as risk factors to carcinoma and no novel risk factors and hypothesis were reported. More study about the co-effect of risk factors and gene polymorphism to the generation of carcinoma should be developed.

Moreover, the statistic results of different part are conflict and confusing the ideas they developed. Different results were drawn by Univariate conditional logistic regression analysis and multivariate conditional logistic regression analysis about espophageal lesion.

I found that major revision is necessary for your manuscript:
1. Methods: Only 107 cases and 107 controls were involved and it is hard to get convincible results.
2. Methods: was the Hardy-Weinberg equilibrium test preformed in controls?
3. Methods: Stratified analysis is recommended to be employed to estimate the interaction between genetic polymorphisms and other common risk factors, such as cigarette smoking, eating fatty food and alcohol drinking.
4. Results: Analyzed by multivariate conditional logistic regression analysis, the P value of esophageal lesion is 0.04, while by univariate conditional logistic regression analysis, the P value is 0.05.
5. Discussion: The authors do not present any new viewpoint. All the risk factors are well known and the co-effect or interact of gene and environmental factors are not developed.

This manuscript should not be accepted because scientifically unsound.
The level of interest of this manuscript is limited interest.
Quality of written English is acceptable.
As a case-control study, it is very essential that this manuscript is seen by an expert statistician.
I declare that I have no competing interests in relation to this manuscript.

What next?: Reject because scientifically unsound

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: No

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