Reviewer's report

Title: The genetic polymorphisms of HER-2 and the risk of lung cancer in a Korean population

Version: 2 Date: 11 August 2008

Reviewer: Emanuela Taioli

Reviewer's report:

Major Compulsory Revisions:
(1) More details are required with regards to the identification and selection of the four SNPs in the Methods section. Also, in the Results section (Page 9), the results are not reported clearly regarding establishing linkage disequilibrium among the 3 SNPs (-3444C>T, -3396 C>T, -3374 A>G) and this need to be addressed. The authors talk about "sequencing 24 lung cancer samples and reviewing the previous reports" in the Results section without previously mentioning anything in the Methods section regarding the 24 lung cancer samples and it is unclear which previous reports they are referring to.
(2) Details need to be provided regarding the type of matching that was done, the covariates in the regression model in the Statistical Analysis section, as well as more details regarding the subgroup analyses and whether the confounding effects of smoking and drinking were considered.
(3) The appropriateness of performing unconditional logistic regression when cases and controls are matched for age and gender (Statistical Analysis section, Page 9) needs to be elaborated. This is also important for understanding the results of the stratified analysis mentioned in the Results section (Page 10) and presented in Table 3 (Page 24) where ORs are presented after adjusting for age and/sex.
(4) The authors have presented only the results of part of the stratified analysis (for females, non-smokers, non-drinkers) in Table 3 (Page 24), but it would be informative to see the results of the entire stratified analysis (including males, smokers, drinkers) as well as discuss these results in greater detail in the Discussion section.

Minor Compulsory Revisions:
(1) There is no mention of how the lung cancer cases were identified i.e. whether they were histologically confirmed cases etc in the methods section (page 6).
(2) The limitations of the study are not clearly discussed.
(3) The location (city, country) of the hospitals from which the cases and controls were obtained is not mentioned in the methods section.

Discretionary Revisions:
The authors only state the number of adenocarcinomas among females and non-smokers in their study in the Discussion section (Page 12) but it would be
interesting to also look for possible association between the SNPs and lung cancer histology since previous studies have reported that HER2 mutations among female non-smokers have an adenocarcinoma (especially Bronchioloalveolar Carcinoma) in East Asian populations. It would also be valuable to know if there is an association with histological type among females and non-smokers.

**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.