Reviewer's report

Title: Polymorphisms of XRCC1 genes and risk of nasopharyngeal carcinoma in a Cantonese population

Version: 2 Date: 18 December 2005

Reviewer: Allan Hildesheim

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Major Comments:

1. Insufficient information is provided on the study methods. What eligibility criteria were applied for cases and controls? What were the response rates among eligibles? Were controls matched to cases on smoking status (Abstract says “yes”; Methods section says “no”; data in table suggests not)?

2. There is no evidence of an effect for the codon 399 polymorphism. This should be more clearly stated in the Abstract and elsewhere.

3. There does not appear to be any significant evidence for an interaction between the two polymorphisms evaluated, although the authors seem to imply at times that there is. In table 3, is the OR = 0.87 for Arg/Trp-Arg/Arg statistically significantly different from the OR = 0.58 for Arg/Trp-Arg/Gln? The p-values provided in Table 3 compare each of those Ors against the referent, but to evaluate interaction they need to be compared against each other.

4. The authors mention (in the abstract and throughout the paper) that there is no modification of the codon 199 effect by smoking. This is a main finding of the paper, but no data is presented to back the statement.

5. The numbers in Table 1 for smoking do not seem to add up (e.g., 298 cases say they smoked, but pack-yrs information is provided for 240 only; 157 controls say they smoked, but pack-yrs information is provided for 158). Also, does the fact that the mean and median smoking reported is similar for cases (16.1 and 20) but very different for controls (7.1 and 20) suggest something about the distribution of smoking among controls? Are these figures correct? Are these figures for those who reported ever having smoked only or among all? The table legends need to be more explicit.

6. Why did the authors choose to evaluate polymorphisms in codons 194 and 399? How about codon 280? The authors reference in their Discussion that a codon 280 polymorphism has been found to be associated with NPC in the past. Should this codon be evaluated in the present study?

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
Declaration of competing interests:

The reviewer has no competing financial interests.