Reviewer’s report

Title: A case-control study on the effect of Apolipoprotein E genotype on gastric cancer risk and progression

Version: 2 Date: 3 September 2012

Reviewer: Anna M Bennet

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Major Compulsory Revisions:

1. The changes that have been made to the manuscript after the revision have not convinced me that the control group is representative of the general population. I agree with the authors that, since there are only a few cardiovascular patients in the control group there should be less of a selection bias towards ApoE4 carriers, yet the allele frequencies do not correspond to that presented in previous reviews (for example JAMA 298(11):1301-1311, 2007). ApoE4 should be more frequent than e2 but (calculated from the data presented in table 2) in the control group of the present study e2 and e4 appear at almost the same frequency. In table 1, please include the allele frequencies for e2, e3 and e4 for cases and controls. This is important background information.

2. This study has quite low power and the uncertainties concerning the control group makes it difficult to draw conclusions. There are hundreds, if not thousands, of genetic association studies on ApoE that have overestimated the genetic effects of the rare variants due to exactly these problems. Yet, this is the first paper presenting ApoE genotypes in relation to this rather rare disease and that makes the study important. The authors should tone down their conclusions, perhaps by adding something in the line of “but further studies are required to confirm this”. This should be done both in the abstract and the discussion and not just at the “Conclusions” section.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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