Reviewer’s report

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

**Version:** 1  **Date:** 4 April 2012

**Reviewer:** Anna M Bennet

**Reviewer’s report:**

A well-formulated, medically and epidemiological sound hypothesis lays the ground to this manuscript. There are some concerns regarding the method.

**Major Compulsory Revisions**

First: The control group consists of “cancer-free patients, with a broad range of diagnoses, admitted to the same hospital during the identical time period”. As ApoE4 is commonly over-represented amongst patients with cardiovascular diseases, and as this patient group is common at hospitals, I fear that the current control group may lead to false risk estimations. Please show that your control group is representative of the population. Otherwise, a population-based control group should be used.

Second: I appreciate that gastric cancer is a relative uncommon disease, but with 156 cases there are only 15 e2/e3 carriers and no e2/e2 carriers in the patients group. The power of the study clearly confirms this. The study would benefit from more cases being included.

Third: It is inappropriate to calculate the risk for the combined e2/e2 and e2/e3 and e3/e4 and e4/e4 when there are no cases with the homozygous genotypes in the case-control material.

**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' below