Reviewer's report

Title: Methylenetetrahydrofolate reductase C677T polymorphism in patients with gastric and colorectal cancer in a Korean population

Version: 1 Date: 26 January 2010

Reviewer: Nagwa Meguid

Reviewer's report:

The paper of Lian-Hua Cui et al. is an interesting study aimed at determining whether the common polymorphism in the MTHFR gene is able to significantly modify the risk for gastric and colorectal cancer in the Korean population. The authors propose a case-controlled genetic study on gastric and colorectal cancer predisposition in a sample of the Korean population. The original point of this manuscript is, that they study population, which represent an epidemiological features regarding gastric and colorectal cancer. On the other hand they studied only single polymorphism of the MTHFR gene where there are more reports tested the two polymorphisms of the MTHFR gene largely in other populations.

My comments and suggestions are:

1- I recommend the authors to study two samples germ cells and tumour cells to compare from part of the studied cases to find out the role of mutation in developing cancer. This could have been better to shedd light on the possibility of acquiring mutations at 677 due to rapid cell growth followed by weakend profreezing mechanism. This will be more informative to the study.

2-Authors explain the interaction between MTHFR polymorphisms and smoking and drinking habit and age for gastric and colorectal cancer risk, on the other hand no information is given about life style of Korean diet. The lack of data regarding the plasma folate levels of case group are important data.

I hope that the modifications proposed here may contribute to the improvement of the article.