Reviewer's report

Title: Differences in the genetic pathway(s) between Vietnamese and Japanese colorectal cancers

Version: 2  Date: 17 July 2014

Reviewer: Rashmi Prasad

Reviewer's report:

The current study compares somatic K-ras, mtDNA and high-frequency microsatellite instability mutation frequencies between Vietnamese and Japanese CRC patients.

The strengths of the paper:

1) one of the few studies, possibly one of the first which studies genetic alterations in the Vietnamese CRCs.
2) there is a significant different between the frequencies of the mutations studied, suggestive of altered mechanisms for CRC between the two populations.

Major Compulsory Revisions

1) of course, the sample size. Considering that this is a study based on differences in frequencies between the two populations, a higher sample size would provide more power to the data. This paper is based on frequencies of selected mutations in two different populations. It would be relevant to mention perhaps the frequencies of these mutations in the Japanese population (if published), and assess if they match with the frequencies obtained in the present study.

2) It is not clear why these three mutations were specifically selected, why only K-ras, mtDNA and high-frequency microsatellite instability? It would be clearer if the selection criteria was mentioned while framing the questions this paper addresses in the introduction itself.

3) ONe of the most important aspects - this paper investigates somatic mutations, however, the conclusions mention "genetic pathways". This would be wrong, in the sense that these somatic mutations are restricted, quite possibly to the cancer cells whereas using the term "genetic pathways" is suggestive of the involvement of the whole genome.

4) The authors also mention GWAS studies - which investigate primarily genetic susceptibility, whereas this paper is mainly focused on somatic mutations. This requires a major revision in phrasing and discussion.

5) This paper needs a stronger discussion and a more specific conclusion.
Discretionary Revisions

Would be interesting if outcomes in both populations could be assessed based on which mutations they carry. However it is understandable if such data were unavailable.

Minor Essential Revisions

1) The paper refers to Table 1, 2 3 and 4, whereas these are available as supplementary data.

2) The gel figure A appears are one big continuous band, B as blurred banks and C as one continuous blurred band. Perhaps a better picture?

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests