Reviewer's report

Title: BRAF V600E mutation and KRAS codon 13 mutations predict poor survival in Chinese colorectal cancer patients

Version: 3  Date: 9 September 2014

Reviewer: Elena-Sophie Prigge

Reviewer's report:

Chen and co-workers analyzed the prevalence of mutations in KRAS, exon 2, BRAF, exon 15, and PIK3CA, exons 9 and 20, in a cohort of 214 Chinese colorectal cancer (CRC) patients and assessed the impact of those mutations on patient prognosis. They demonstrated frequent KRAS codon 13 mutations (11.7%) with significantly worse overall survival (OS) in those patients when compared to KRAS wt/BRAF wt CRC patients. In contrast, KRAS codon 12 mutations (32.7%) did not impact survival. Moreover, BRAF V600E mutation was associated with poor overall survival. The authors conclude that mutations in the PI3K/RAS-RAF signaling pathway occur frequently in Chinese CRC patients. However, characteristics of those mutations differ partly in the Chinese patient cohort when compared to CRC patients from Western countries, which might influence future therapy decision in Chinese CRC patients.

The study design is carefully planned and thoroughly described, the chosen methods are appropriate and results are presented comprehensively. Limitations of the work are clearly stated.

Major Compulsory Revisions:

There are no major aspects requiring revision by the authors.

Minor Essential Revisions:

- The authors state that “140 patients were excluded as they were lost during follow-up period” (p.4 ll.86-87). Were any differences observed between those 140 patients and the 214 finally included patients with regard to clinical parameters or known mutation status that might bias the obtained associations?

What is specifically meant by “lost during follow-up period” (required minimal post-operative observation period for inclusion in study?)?

- p.8, l.184:

3-year OS for KRAS c.38G>A mutants/BRAF wt is indicated as 27.9%. However, Figure 3E indicates a 3-year OS for this patient group of about 55%. Please correct and double-check calculations.

- While the discussion targets many of the obtained results in great detail, it is extensive and should be focused more on the major findings of the study.
Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

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.