Reviewer's report

Title: Study protocol of the B-CAST study: a multicenter, prospective cohort study investigating the tumor biomarkers in adjuvant chemotherapy for stage III colon cancer

Version: 1 Date: 18 December 2012

Reviewer: Kho Patricia

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This is one of the biggest study performed with respect to analysis of molecular markers such as TP, DPD, TS, OPRT, EGFR and VEGF with a total of 2912 patients and fresh frozen tumour specimens. The authors should be commended.

Most previous studies had explored mainly 5fU-based chemotherapy regimens only but this study included patients treated with UFT and S1, which would be of interest.

Minor discretions

1. It would be good if the authors can describe how the patients were staged clinically – that is, by CT scans, endoscopic ultrasound, colonoscopy and so on. Presumably TNM staging is used; if so, it would be useful to state that as well.

2. Clinical and pathological features need to be collected. The paper only mentions pathological features. A list of all data collected would be useful.

3. After the pathology results confirmed that the patients have Stage III colon cancer with clear margins, the patients are offered adjuvant chemotherapy. The tumour specimens of the patients who did not go on to have adjuvant chemotherapy, were not analysed and discarded. Would it be useful to have a control group who did not receive adjuvant chemotherapy or are the numbers too small to be of use? It would be useful to know the DFS, RFS and OS of this particular group who did not have chemotherapy.

4. How would the correlation between each biomarker and RFS/DFS/OS be performed and would the differences between the different biomarkers be analysed in patients with or without recurrence? Kindly elaborate.

5. with regards to adhering to the CONSORT method of reporting, the authors might considering changing the below mentioned:

After "Final Enrolment" on pg 14, there could be a subheading for “Treatment” and a description of the adjuvant therapy administered and follow up schedule (currently termed “outcome survey” on pg 16).

On page 16, instead of the subheading “collecting information of adjuvant
chemotherapy”, there could be a subheading under “outcome”. This would also include definition of endpoints (currently under “statistical matters” and the paragraph outlining the collection of SEs.

6. The writing needs to be improved as there are grammatical mistakes and certain sentences are ambiguous.

Some examples:

Pg 9 - ….thymidine phosphorylase (TP), which is more in tumour tissues than normal tissues, with the aim of reducing gastrointestinal toxicity and hematotoxicity of 5FU. – It might read better if changed to: “….thymidine phosphorylase (TP), which is in higher concentrations in tumour tissues than in normal tissues, with the aim of reducing gastrointestinal and haematological toxicities of 5FU.

Pg 16 – The study protocol does not defines treatment regimens and schedule for assessment of AEs. After chemotherapy is completed, the following information is reported using a Web-based case report system. – So there is a schedule for reporting on the web?

Pg 19 - *: According to the accumulation situation of the case, the registration period was extended from 2 years to 3 years on February 2011.

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

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

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests.