Reviewer's report

**Title:** Prognostic Value of alpha-Fetoprotein and Des-gamma-Carboxy Prothrombin Responses in Patients with Hepatocellular Carcinoma treated with Transarterial Chemoembolization

**Version:** 3  **Date:** 28 May 2012

**Reviewer:** Stephen Chan

**Reviewer's report:**

Overall it is a decently written article with clear presentation of data. The works of biomarker to monitor treatment response for HCC is potentially important since radiological criteria (even the recently advocated mRECIST or EASL criteria) are suboptimal in predicting responders or survivors.

**Major compulsonry revisions**

1. Because two distinct criteria (WHO and modified RECIST) have been used in the paper, the authors need to state clearly what radiologic criteria they have used for definition of progression. This will in turns affect the PFS and TTP significantly.

2. Since this is a retrospective study, all subjects may not have the same follow-up period or timing of assessment scanning. The definition of PFS is subject to bias. This is probably the reason why AFP response is not associated with PFS. The authors need to discuss this limitation in the discussion part.

3. It is not surprising to see AFP response predicts better OS again in HCC patients (as demonstrated by Chan SL et al. JCO 09 and Riaz et al. JCO 09). Since the authors have also DCP value, I think the authors could analyze whether combined serological endpoint (AFP and/or DCP responses) will improve the prognostication. This will be the novel part of the study.

4. What is the rationale or reference to support the use DCP cut-off of 20 mAU/mL? Also, what is rationale of using 50% reduction to define the DCP response?

**Minor Essential revisions**


2. In table 1, PIVKA II is used who DCP is used in the rest of article. Suggest standardization of the terms across the paper.

**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: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

'I declare that I have no competing interests'