Reviewer’s report

Title: A novel biomarker TERTmRNA is applicable for an early detection of hepatoma

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Reviewer: helen Reeves

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This is an interesting and thorough research study, which includes large numbers of patients and appropriate controls. It is generally well written and represents an important contribution to the search for diagnostic biomarkers for early HCC in patients with chronic viral hepatitis.

Major Compulsory Revisions / Minor Essential Revisions:

The authors demonstrate very clearly that serum hTERT mRNA is superior as a biomarker, both in terms of sensitivity and specificity, and positive and negative predictive values, to other commonly used biomarkers. However, although the authors comment, for example, on the numbers of patients negative for one biomarker who were positive for another, they do not present data analysing the success of combinations of biomarkers. eg. what is the level of improvement in sensitivity and specificity when combining hTERT with AFP? or with DCP? This would be particularly interesting for the early/smaller tumours. Really, I would have liked to see more of the data for different size and differentiation grade tumours. Figure 5 is excellent in this regard for size, and a similar figure for grade may further enhance the manuscript, but do not reveal additional value of biomarker combinations.

Discretionary revisions - The authors imply in their abstract, introduction and early discussion that it is primarily because HCC is a complex disease, involving many cellular signalling pathways, that a novel biomarker is required. While this may well be true, it is primarily because the presently used biomarkers are not sufficiently good enough, especially in early disease, to be used as surveillance or diagnostic tests. I would suggest this be introduced at an earlier stage.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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