Reviewer’s report

Title: Impact of Stem Cell Marker Expression on Recurrence of Hepatocellular Carcinoma Post Liver Transplantation

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Reviewer: Allan Tsung

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In this manuscript Zeng et al. investigate cancer stem cells marker expression as predictors of tumor recurrence after liver transplantation. They find that in patients undergoing TACE for downstaging, high expression levels of EpCAM was associated with tumor recurrence. This manuscript provides a valuable contribution towards identifying prognostic and predictive markers for patients with HCC. Comments:

1. The HCCs from TACE-treated tumors were higher stage and had more microscopic necrosis and fibrosis. Can the authors comment on whether high EpCAM and CD 133 staining could result from more necrosis and fibrosis.

2. The authors use the term “downstage” to allow patients to qualify for transplantation. However, all the patients appear to be either stage I or II (within Milan criteria). Is there any staining performed on patients with more advanced stage which were initially outside Milan but downstaged?

3. The title makes no reference to TACE, but that is a key aim of the study, looking at progenitor cell expression in TACE vs non-TACE treated tumors. I would alter the title to discuss TACE.

4. The current guidelines, Milan and others, are based on pre-transplant criteria (size, number of lesions, vascular invasion) that can be assessed pre-transplant to predict recurrence. Staining explanted livers may help predict recurrence (if EpCAM staining is validated as a marker), but it can only be determined post-transplant. Have the authors examined EpCAM expression in pre-transplant biopsy of tumors to show similar findings?

5. There are some minor issues in the tables. Not all the numbers add up in Table 1 and Table 3.

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'