Reviewer's report

Title: Correlation of CD44v6 expression with ovarian cancer progression and recurrence

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Reviewer: Carrie House

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BMC Cancer Review:
“Correlation of CD44v6 expression with ovarian cancer progression and recurrence”
Jun Shi, Zhou Zhou, Wen Di and Ningli Li

Summary: This study examines the expression of CD44 (standard and variant 6) in ovarian cancer to identify any potential correlation with disease progression and recurrence. Previous studies by other groups were inconclusive but suggest a positive correlation between CD44v6 expression and tumor progression.

Major Compulsory Revisions:

1. The authors cite several studies that examine differences in the expression of CD44s and CD44v6 in ovarian cancer and further highlight that these studies resulted in conflicting data. To address these discrepancies the authors examine differences in expression of the two variants in patient samples in their laboratory. Please emphasize what makes the current study unique in comparison to the previous studies, or how it helps clarify prior findings in the literature.

2. The current study focuses on advanced versus recurrent serous adenocarcinoma; please comment on potential differences in mucinous ovarian cancer. Mucinous is distinct from serous and is more similar to GI tract carcinomas and since the CD44v6 was increased specifically in the abdominal cavity, it would be worthwhile to explore any association of this variant with mucinous type.

3. Figures 1 and 3 could be combined to underscore the association of CD44v6 with recurrent disease. For the ELISA graph, please indicate number of patients in each group and how many times the experiment was performed.

4. For IHC please include representative staining image for CD44v6 in normal ovary tissue and lymph node metastases, that was said to be included on the Ovarian Cancer Tissue Chip.

5. The conclusions of the study would be greatly enhanced with a functional assay measuring metastatic potential. For example knocking down CD44v6 with an siRNA in an ovarian cancer cell line and assessing changes in migration or invasion.
Discretionary Revisions:
1. page 7: qRT-PCR was repeated once in triplicate. Please comment on why this was not further confirmed (patient tumor tissue limited?)
2. page 8: Please comment on which statistical test was performed using SPSS software.
3. Figure 2: Please comment on why the mRNA is trending down (in A), while the protein appears to be increasing (in B, C) for CD44s
4. Figure 4: Consider also staining the Ovarian Cancer Chip for CD44s.
5. In the last paragraph of the results, please add a comment about the results in table 1 regarding quantity of staining frequency across different grades of tumor differentiation.

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

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