Reviewer's report

Title: Stomatin-like protein 2 was overexpressed in epithelial ovarian cancer and predicted patient poor survival

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Reviewer: Alicia Tone

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Sun et al report an increased mRNA and protein expression of SLP-2 in epithelial ovarian cancer compared to borderline ovarian tumors, benign ovarian tumors and normal ovary. SLP-2 over-expression was associated with overall and progression-free survival within the entire cohort of ovarian cancers. Overall, the authors need to provide additional details on the histology of benign and borderline tumor samples included in the analysis, and perform their analyses of differential expression and survival within a given histologic type in order to fully understand the significance of this finding.

Major Compulsory Revisions

1. Studies over the past several years have definitively shown that the different histological types of ovarian cancer are distinct diseases (including but not limited to high-grade serous, low-grade serous, endometrioid, clear cell), with unique sites of origin, molecular aberrations and pathogenesis. One must therefore study these diseases independently in order to make meaningful conclusions. It has also been shown that the prognostic value of a given biomarker can differ when looking at “ovarian cancers” as a whole, or within a given type. Two notable examples of this are proliferation marker Ki-67 and WT-1, as shown by Kobel et al (PLOS Medicine, 5(12): e232, 2008). Whereas Ki67 was an unfavorable prognostic marker within a cohort of ovarian cancers of all histologies, it did not show a prognostic impact within any specific type. Furthermore, WT-1 was found to be an unfavorable prognostic marker in the overall cohort, but was a favorable prognostic marker within high-grade serous carcinomas. In light of these important findings, the authors are strongly recommended to repeat their survival analysis within each histologic type.

2. In line with the previous comment, the authors should provide more details regarding which types of borderline and benign ovarian tumor specimens were included in their analysis of RNA and protein levels, as it is not meaningful to compare benign/borderline and malignant tumors of different histologic types (e.g. comparing a mucinous borderline tumor to a high-grade serous carcinoma).

3. The authors should provide more information on the eight matched pairs of epithelial ovarian cancer specimens (histology, stage, grade) and adjacent noncancerous tissue samples (was this ovarian stroma?).
Level of interest: An article of limited interest

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