Reviewer's report

Title: Tumour-Specific HMG-CoAR is an Independent Predictor of Recurrence Free Survival in Epithelial Ovarian Cancer

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Reviewer: Dan Xie

Reviewer's report:

Dr. Donal J. Brennan et al. assessed the expression status of HMG-CoAR on TMA consisting of 76 ovarian cancer cases by IHC using an automated quantitative scoring method, described that HMG-CoAR expression is an independent predictor of prolonged RFS in primary ovarian cancer. The study concept is almost clear, and the manuscript is concisely written. However, the following issues should be addressed before it can be accepted.

Major compulsory revision
1. In the 3rd to 4th line of page 5, the authors mentioned that “a power calculation revealed that a cohort of 54 patients would allow for a power of 0.95”, how the calculation was made? According to this study, the 5y-RFS for HMG-CoAR high and low expression subgroups were about 40% and 15% respectively, thus, the total sample number of 76 is still small.
2. Since this study evaluated the correlation between HMG-CoAR expression and patient survival in primary ovarian cancer, the clinical and pathological factors that might influence patient survival, and the status of patient survival and recurrence, should be showed clearly in the results.
3. While the authors used the automated quantitative method by scoring both the intensity and percentage positive tumor cells on TMA, why only the staining intensity was accounted by manual analysis?

Minor essential revision
1. In the “Discussion” section, the authors mainly talked about the function and/or mechanism of HMG-CoAR in cancer cells, however, no biochemical analysis of HMG-CoAR in ovarian cancer cell lines was showed in this study.
2. The format of the manuscript and tables needs some revision according to BMC Cancer style.

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: Yes, but I do not feel adequately qualified to assess the
statistics.

Declaration of competing interests:

I declare that I have no competing interests’