Reviewer's report

Title: Chemotherapy weakly contributes to predicted neoantigen expression in ovarian cancer

Version: 0 Date: 2017-01-23

Reviewer: Sudeshna Chatterjee

Reviewer's report:

This is an interesting article investigating the effects of chemotherapy on neoantigen expression in high grade serous ovarian carcinoma. The paper, in itself, is very well written and conveys a very interesting concept which may have important clinical implications.

Just a few minor points -

I think from a clinical standpoint, it may help to have a "demographics" type table reflecting the information in additional file 1 to help the reader understand what type of samples and chemo exposures your cohort is representing.

I think that it would be helpful to address in the methods sections about why you utilized cisplatin exposed C. Elegans and G. Gallus [Page 4, Line 6] rather than carboplatin (the standard of care first-line chemotherapy agent of choice). I know that your discussion addresses this on page 8, Line 19, but it may help to introduce this earlier.

You also mention that the signatures for carboplatin may be different, would this change your assertion the increased neoantigen expression is from other sources (in place pre-therapy) rather than chemotherapy exposure?

Can you elaborate on why NACT treated tumors have fewer neoantigens expressed [line 52, page 8]. It may be my limitation as a clinician, but what do you mean by "undetectable allelic fractions without the population bottleneck created by surgery"

It would be interesting to see your discussion readdress the idea of how your study impacts the role of immunotherapy in ovarian cancer referenced in you initial background section [Lines 18]
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
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