**Reviewer's report**

**Title:** Cyclo-oxygenase-2 (Cox-2) expression and resistance to platinum versus platinum/paclitaxel containing chemotherapy in advanced ovarian cancer

**Version:** 2  **Date:** 19 June 2006

**Reviewer:** Joanna Stewart

**Reviewer's report:**

General

The authors have responded satisfactorily to my previous comments, however there are still sections in the paper which do not fully reflect the changes they have made elsewhere. These problems, however, are now small.

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**Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)**

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**Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)**

1. Abstract - The results in the abstract still need to be changed to reflect the analysis that tests the main hypothesis of the study i.e. the difference in the effect of COX-2 on response in the 2 treatment groups. It cannot be implied that COX-2 has no effect on response because a p value is greater than .05, or that the effect is different because one p value is less than .05 and another greater. The individual p values should not be quoted here i.e. it should be the test of the interaction which is reported. Can report the observed percentages and say there is some possible indication of a difference in the effect of COX-2 p=.17.

2. Methods - Statistical method i.e. The description of the logistic regression analysis should refer to the inclusion of the interaction term.

3. Results - As the interaction was included in the logistic regression the interpretation of the main effects for the terms in the interaction is not straightforward i.e the p=.09 for COX-2 would be very different without the interaction. It therefore should not be referred to it in the results (although of course it must be included in the analysis).

4. Discussion - 2nd paragraph - The discussion of possible reasons for the effect of COX-2 on response and why this could differ according to treatment again should be motivated by the possible evidence of this as demonstrated by the test for an interaction, not by the significance of the effect of COX-2 when investigated within treatment. Therefore this discussion should be preceded by a statement that there is possibly a difference in the influence of COX-2, depending on treatment although larger studies will be needed to confirm this, with your observed difference greater in those without paclitaxel. You can not say that than there seems to be no difference™ when referring to those with paclitaxel.

5. Heading table 1 appears wrong (sorry, I referred to the wrong table previously)

6. As table 2 and 3 each have only one p value the foot notes should not give a choice as to how it was produced.

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**Discretionary Revisions (which the author can choose to ignore)**

1. Results - 5th paragraph - The inclusion of the test for difference in response in the 2 groups, and of difference in COX-2 would seem unnecessary and confusing. Unless choice of treatment is in some way dependent on COX-2 there would seem no reason to hypothesise that the population of patients receiving one treatment should have a different distribution of COX-2 positivity than the other. It is therefore not sensible to test it. Also, if it is true that COX-2 influences response differently in the 2 treatments, then with
a large enough sample of randomly assigned treatments there would by definition be a difference in response in the 2 treatment groups so this is in conflict with what you are saying elsewhere.

2 - Results - It would be better to report the logistic regression before the individual percentages “this is the test of your main hypothesis” Having shown that there could possibly be a difference of effect of COX-2 in the two treatment groups you can then go on to quote the percentages in the 2 groups. It may be preferable not to quote these p values.

3 - Discussion - in line with my comment in 1 above about testing the difference in response in the 2 treatment groups, commenting on the lack of statistical difference seems in conflict to saying that the effect of COX-2 on response may differ in the 2 treatment groups

What next?: Accept after minor essential revisions

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

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:
I declare that I have no competing interests