Reviewer's report

Title: ERCC1 and BRCA1 mRNA expression levels in metastatic malignant effusions is associated with chemosensitivity to cisplatin and/or docetaxel

Version: 1 Date: 16 December 2007

Reviewer: Harry Groen

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Wang L. et al. ERCC1 and BRCA1 mRNA expression levels in metastatic malignant effusions is associated with chemosensitivity to cisplatin and/or docetaxel.

This manuscript focuses on the interesting issue of in vitro chemosensitivity of tumor cells from different effusions to chemotherapy and the ERCC1 and BRCA1 mRNA expression. The main message is that increased ERCC1 and BRCA1 mRNA expression is related to increased cisplatin resistance in tumor cells, while increased BRCA1 is related to increased sensitivity to docetaxel. Both markers may be a better predictor for cisplatin sensitivity. Unfortunately, they included patients with malignant effusions who had chemotherapy (n=9) and those who were not treated (n=37). That small numbers make firm conclusions difficult. Another important issue is the poor language that leads to misunderstandings at many places in the manuscript. A lot of editorial adaptations should be made before acceptance.

Additional remarks:

1. Abstract: methods; should state more carefully that most patients were postchemotherapy patients. Also the cytology should be mentioned.
2. Page 3, line 19: chemosisitivity is misspelled. That occurs at different places in the manuscript.
3. Page 4: in the last alinea it is stated that all malignant cells are metastatic. How did they know that they were not the primary tumors? How was the distribution of cancer cells in the malignant fluid? It is stated that the fluid contained at least 50% of cancer cells.
4. Page 5, several grammar errors. line 4: â#\text{the interface was collected. This should be clarified.}
5. Page 5, 3th alinea: â#\text{appropriate positive and negative controls. Which controls?}
6. Page 5, last alinea: explain why these test drug concentrations are used.
7. Page 7: the figure numbers are not corresponding with the figures in the text. The language is confusing. Was ERCC1 expression not related to docetaxel sensitivity?
8. Discussion: Second alinea: Response to chemotherapy does not depend on
intrinsic chemosensitivity alone. Discuss the other factors and the impact of those factors in relation to the in vitro method they used.

9. Discussion, page 8: Discuss the presence or absence of pre-treatment with chemotherapy on the effect of chemosensitivity as measured with ATP-TCA.

10. Table 1: mention the types of NSCLC.

11. Make the Y-axis of the different figures the same so that comparison is easier to make. It is not clear for the reader what the relative ERCC1 expression in figure means. That should be explained. Moreover, in the text on page 6 a range for ERCC1 expression is mentioned of 0.005 - 0.831.

**What next?:** Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions.

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

**Quality of written English:** Not suitable for publication unless extensively edited.

**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.