Reviewer's report

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

Version: 1 Date: 12 November 2007

Reviewer: Rafael Rosell

Reviewer's report:

General
This is a very important study showing the relevance of ERCC1 and BRCA1 mRNA in metastatic cells and their prediction of cisplatin and docetaxel sensitivity. The study is completely congruent with previously reported preclinical and clinical data. Importantly, it reinforces the concept that low levels of ERCC1 confers sensitivity to cisplatin and resistance to docetaxel, and vice versa. In essence, high levels of BRCA1 confer sensitivity to antimicrotubules and resistance to platinum compounds.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
The manuscript should be revised by a native English medical writer.

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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) p5-6: I have several questions about the way the authors performed the anti-cancer drug sensitivity assays
---Cells were kept in serum-free medium (plus drugs) for 6 days. The authors claim (p6) that this way they enrich the culture in tumor cells. But tumor cells also die after so many days without serum. Did they evaluate (by cytological examination) the total number of tumor cells at the beginning and at the end of the 6 days?
---With no serum, tumor cells will probably not enter mitosis, and this fact can alter the sensitivity to drugs such as cisplatin or docetaxel.
---The "sensitivity index" they explain is an unusual way to evaluate the effect of a drug. Why were the IC50s not determined instead?
---What does the positive control ("maximum inhibitor") mean? Is it the highest concentration of the drug tested? (i.e. 7.6 ug/mL for cisplatin?)

2) Fig 3b: Most of the correlation seems to be due to the two extreme points. What happens if these points are eliminated?

3) The authors should include another figure showing the joint correlation of
BRCA1+ERCC1 with drug sensitivity. They should also include an explanation of the way the joint correlation was analyzed (i.e.: were the average delta Ct used?)

Discretionary Revisions (which the author can choose to ignore)
NONE

What next?: Accept after minor essential revisions

Level of interest: An article of outstanding merit and interest in its field

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.