Reviewer's report

Title: TIMP-1 and VEGF-165 serum concentration during first-line therapy of ovarian cancer patients

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Reviewer: David Hardisson

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General

In this study, Mahner and colleagues have quantified CEA-125, TIMP-1, and VEGF-165 serum concentration by ELISA/ECLIA at different time points (before surgery-after surgery and before chemotherapy-during chemotherapy-after chemotherapy) in a series of 37 patients with epithelial ovarian cancer treated homogeneously with primary surgery and platinum/taxane-based chemotherapy. The results were correlated with clinical outcome. The main finding of the study is that TIMP-1 and VEGF serum levels changed significantly during first-line therapy and of ovarian cancer patients and predicted outcome. Although the case numbers are rather low, the paper adds valuable information to the current knowledge and might contribute to get a clearer view on the role of these biomarkers during the evolution of ovarian carcinoma, since there are some conflicting results in the field.

In general, the study is well performed and correctly written. The bibliography is appropriate. As the authors point out, a major weakness of the study is the low number of cases that makes difficult the statistical analysis.

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

None

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

- Last line in Conclusions in the Abstract (“Angiogenesis related serum markers could help to optimize therapy in this context”) should be deleted. I find this sentence to speculative.

- The Methods section regarding the quantitative analysis of serum VEGF-165 and TIMP-1 levels is too repetitive.

- The histopathology of tumors should be detailed in patient characteristics. Was there any correlation between histological type of tumor and TIMP-1 or VEGF-165 serum values?

- How was the response to chemotherapy evaluated? In my opinion, it would be
of interest to correlate the results of the quantification of CEA-125, TIMP-1, and VEGF-165 serum values with the response to chemotherapy (partial response versus complete response).

- The authors should clearly indicate if all serum samples were collected at the same time in the different groups (before surgery-after surgery and before chemotherapy-during chemotherapy-after chemotherapy). This is specially relevant in the last two groups: during chemotherapy (chemotherapy consists in six cycles of carboplatin-paclitaxel along several weeks) and after chemotherapy (serum levels will not be probably the same one week than four weeks after finishing chemotherapy).

- Did the authors find any correlation between CEA-125, TIMP-1, and VEGF-165 serum values and some of the clinicopathologic variables included in the study such as lymph node metastasis or grading (grade 2 versus grade 3 tumors).

- In the Discussion, first paragraph, last two lines, the authors indicate “… a potential prognostic and predictive role…”. From the data presented in the study no predictive role in the evaluation of these markers can be clearly established. This statement should be, therefore, changed to reflect only the potential prognostic value of TIMP-1 and VEGF-165.

Discretionary Revisions (These are recommendations for improvement which the author can choose to ignore. For example clarifications, data that would be useful but not essential)

- If tissue samples of the tumors are available, it would be very interesting to confirm the results of the study by immunohistochemistry against VEGF and TIMP-1.

- Minor spelling errors should be corrected (i.e., Abstract, Background, line 3: ("TIMP-1 in" instead of "TIMP-1 is").

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

Quality of written English: Acceptable

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.