Reviewer's report

Title: Inflammation-regulating factors in ascites as predictive biomarkers of drug resistance in serous epithelial ovarian cancers

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Reviewer: Cyril Touboul

Reviewer's report:

This study is dealing with inflammation-regulating factors in ovarian cancer and their potential use as diagnostic or prognostic biomarkers. They measured the level of six markers in ascites by ELISA in patients with ovarian cancer. While the first part of the results is already known, the second part showing that serum CA125 in combination with leptin has the potential to discriminate clinically resistant from sensitive patients, is original.

The article is well written however, I have the following concerns:

1) Major revision:
   a. Introduction: CA125 is not the only biomarker in ovarian cancer. HE4 is also used and the ROMA algorithm validated. (Molina R, Escudero JM, Auge JM, et al. HE4 a noval tumour marker for ovarian cancer : comparison with CA125 and ROMA algorithm in patients with gynaecological diseases. Tumor Biol. 2011 ; 32:1087-95.)
   b. Methods and results: the control group is not defined and details on their pathology would help interpretation of the results. How did the authors defined the number of control patients?
   c. The statement that IL6 could classify all patients with benign gynecological conditions should be softened by the small number of the control group (n=10) in this study.
   d. The discussion should state the impact of the population study on the meaning and the interpretation of the results.

2) Minor revision:
   a. Increased IL6 in ascites was significantly associated with longer PFS and not significantly to chemoresistance. This finding is surprising as IL6 is usually associated with chemoresistance in vitro and IL6 inhibitors tested in phase I trial. This information is important and should be developed in the discussion.
   b. the performance of the algorithm proposed should be discussed with the ROMA.

Level of interest: An article of limited interest

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