Reviewer’s report

Title: MONITORING THE RESPONSIVENESS OF T AND ANTIGEN PRESENTING CELL COMPARTMENTS IN BREAST CANCER PATIENTS IS USEFUL TO PREDICT CLINICAL TUMOR RESPONSE TO NEOADJUVANT CHEMOTHERAPY

Version: 0 Date: 04 May 2017

Reviewer: Nicoletta Biglia

Reviewer’s report:

The Authors have done an impressive work on an interesting point of view concerning the interaction between chemotherapy, chemoresistance and the immune system.

To my opinion some issues must be adressed.

1) In the material and methods section the Authors speak of total of 560 breast cancer patients with pathological diagnosis of Ductal Carcinoma in Situ (DCIS). This must be a misunderstandig because there is no indication to Chemotherapy at all in patients with DCIS.

2) To better understand and classify the study population, the patient's clinical characteristics should be expressed not only as deviation from the median, but also according to the international classifications: namely ER and PgR as negative or positive according to the % of positive staining with the cut-off at 1% or 10% of positive staining (according to the reference they decide to choose), Her2/neu should be defined as positive only if staining +++ or fish test positive in case of staining ++ or +, Ki67 as positive or negative according to a cut off value (20% in most of the recent publications).

3) It should be analyzed whether there is any association between the tumor response to chemotherapy in the individual case and the behaviour of the immunological variables. The analysis in fig 5 (ABCD) would be more informative taking into account the % shrinkage of tumor in the individual patient instead of the final tumor size (> or < than 2,4 cm2) without reference to the initial tumor burden.

4) The number of patients before and after chemotherapy considered in the diferent analysis (Fig 1,2,3) is sometimes different because only in 15 out of 23 patients it was possible to obtain post treatment blood sample for paired and correlation analysis.. This introduces a considerable bias in the comparison of the values. To my opinion the comparison should be made between the pre- and post-chemotherapy values measured in each patient and the results analyzed according to the pathological response of the tumor.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.
Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

No

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

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Needs some language corrections before being published

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