Reviewer's report

Title: Estrogen receptor beta as a predictor of endocrine therapy responsiveness - a randomized neoadjuvant trial comparison between anastrozole and tamoxifen for the treatment of postmenopausal breast cancer

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Reviewer: Sadako Akashi-Tanaka

Reviewer's report:

This is a study to see the effect of ER-β and ER-α and their expression change in a short neoadjuvant endocrine treatment setting, which is small pilot study but is of interest. I have following comments.

1) In the abstract, one of the purpose of this study is to see whether different regimens have any effect on ER-β and ER-α expression levels. But in the conclusions this was not clearly answered. In order to answer this, statistical analysis should be conducted between the different treatment groups. (Major Compulsory Revisions)

2) Does the first sentence of the 3rd paragraph in the result section means that “not a significant variation among different treatment” or “significant change of Ki67 levels during neoadjuvant treatment”? The latter one seems to be the correct. In the abstract “variation” seems also to be incorrect (Minor Essential Revisions)

3) Figure 3 tells us the change of expression of ER-β and ER-α during neoadjuvant endocrine therapy stratified by different regimens. But the title of this figure and the sentence in the result section is positive correlation between ER-β and ER-α. Figures should be drawn some other way. (Major Compulsory Revisions)

4) In the Figure 4, Ki67 change of the other ER-β/ER-α ratio should be inserted – (Major Compulsory Revisions)

5) The authors described that ER-β and ER-α could be better biomarkers than ER-β and PgR in the last sentence in the Discussion section. If you could evaluate the progesterone expression levels in the same specimens and see the Ki67 change, you will have the supporting evidence. – (Discretionary Revisions)

Minor point

P17 L14 predictor of clinical outcome is better to say prognostic factor not to confuse “predictive” and “prognostic”.

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being
published

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

Nothing to declare