Reviewer's report

Title: Trastuzumab without chemotherapy in the adjuvant treatment of breast cancer: subgroup results from a large observational study

Version: 1 Date: 14 Aug 2017

Reviewer: Clemens Tempfer

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Dall and colleagues analyzed survival data of women with HER2+ early breast cancer who received adjuvant trastuzumab without chemotherapy as back bone. Analysis was done within an observational post-marketing study of a pharmaceutical company comprising 3935 patients, 232 of whom were eligible. Survival data were compared between these two groups of patients. Relapse-free survival was better in the group (with chemotherapy), but still acceptable in the trastuzumab-only cases with 80% at 5 years. Overall survival was also worse in the trastuzumab-only group, but still acceptable with 87% at 5 years. The authors conclude that trastuzumab without chemotherapy is an acceptable treatment alternative, if the standard treatment is not given. This is an interesting and clinically relevant study with an interesting result confirming what has been expected and known before, but now underlined by solid observational data. I recommend to accept the manuscript for publication and I have only minor issues:

1) One very important point in this analysis is the propensity score analysis, because the two groups were imbalanced regarding a number of characteristics such as age, use of radiotherapy, and performance status. As mentioned on page 11, you have chosen 204 matched pairs. Please explain who selected the 204 controls (i.e. patients with chemotherapy) and according to which criteria.

2) Can you please provide a subgroup analysis (with inclusion of but not limited to the factors associated with treatment category) regarding RFS and OS using the complete cohorts including a respective graph?

3) Could you please comment on patients with ER+-disease who received trastuzumab without chemotherapy and had or had not used endocrine treatment (if such patients are available within your database)? A direct comparison would be a chance to identify the magnitude of a therapeutic effect of endocrine therapy in addition to trastuzumab.
4) Did you also collect quality-of-life data? If so, please add them.

5) You report on cardiac toxicity data. Please explain in detail how cardiac function was monitored in the observational study used as a data base for your study. Obviously, the monitoring procedures influence the observation of any cardiac toxicity.

**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.

Yes

**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 am able to assess the statistics

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable
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