Reviewer’s report

Title: Role of Baseline Echocardiography Prior to Initiation of Anthracycline-based Chemotherapy in Breast Cancer Patients

Version: 2 Date: 29 July 2014

Reviewer: Grzegorz Piotrowski

Reviewer’s report:

This is retrospective, cross-sectional analysis of 220 non-metastatic, breast cancer patients, treated with anthracyclines in adjuvant setting in whom echocardiography was performed prior to initiation of chemotherapy. The study revealed no association between demographic, tumor, clinical features, echocardiography and clinical decision making by oncologist. The authors conclude that because baseline echocardiography has “minute” impact on decision concerning treatment “a sensible approach is to limit the baseline echo. and periodic EF monitoring”. They suggest that initial and following monitoring of cardiac safety during chemotherapy should include not only EF evaluation but also wide spectrum of clinical aspects.

This article attracts attention to very important problem of cardiology and oncology - monitoring of early anthracyclin-associated cardiotoxicity. It is original, interesting study in the field of cardio-oncology. However, the manuscript needs significant improvement to become clear and easy to understand.

Major Compulsory Revisions

1. Term “Suboptimal EF” should be defined in the abstract (when this term is used first time) and not in the “Results and Discussion” section (at the end of the manuscript).

2. The abbreviation “AUBMC” used first time in the abstract should be explained.

3. “Background” section is too long and not all information is strictly associated with the subject of the study. I suggest to delete some parts of this section, for example the following part of the text, second paragraph, lines 54 -59.

“Anthracyclines act by inhibiting DNA and RNA synthesis: they intercalate between DNA/RNA base pairs thus hindering the replication of rapidly growing cancer cells; they also generate iron mediated free oxygen radicals that damage cellular proteins, membranes and nucleic acids (1). Evidence shows nonetheless that these free radicals might also cause myocyte apoptosis (3) and although their success has been unquestionable, it has been limited not only by their myelosuppression, but by their well-established risk of cardiac dysfunction (2,4). “

4. In the background I would suggest presenting rather, in a few short sentences, guidelines recommending echocardiographic monitoring prior to and during anthracycline-containing chemotherapy (AHA, ACC, ESMO). Discussing the recommendations concerning cardiac safety monitoring in the “Discussion”
section would be profitable for the article.

5. Each condition evaluated in the study (hypertension, diabetes, smoking etc) should be precisely defined or the source of the definition should be indicated in the references in the “Methods” section.

6. The echocardiographic methods should be described in detail. Particularly the method of LVEF calculation should be defined.

7. The process of individuals inclusion to the survey should be described. Were the patients included consecutively or were they selected in any way from the analyzed period (2004-2012)?

8. All exclusion criteria should be precisely stated.

9. I suggest using logistic regression analysis to investigate whether any analyzed feature (demographic, clinical, echocardiographic) is associated with making the decision during chemotherapy.

10. Results and discussion should be separated from each other.

11. Conclusions should be shorter and more precisely as well as more clearly presented.

12. The conclusion: “A sensible approach is to limit the baseline echo and periodic EF monitoring” is too strong. Six patients with LVEF < 50% out of 220 do not constitute a representative group justifying rejection of numerous guideline recommendations for cardiac safety monitoring by means of echocardiography.

13. The manuscript is not elegantly written. It needs significant improvement in the area of English syntax. It is hard to understand some parts of the text.

14. I would recommend better selection of references.

**Level of interest:** An article of importance in its field

**Quality of written English:** Not suitable for publication unless extensively edited

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

**Declaration of competing interests:**

I declare that I have no competing interests
