Reviewer's report

Title: Multivariable regression analysis of febrile neutropenia occurrence in early breast cancer patients receiving chemotherapy assessing patient-related, chemotherapy-related and genetic risk factors

Version: 2 Date: 9 October 2013

Reviewer: Peter Fasching

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The authors present a manuscript concerning with the prediction of febrile neutropenia including clinical and genetic predictors. I have some general and some specific comments.

Major Compulsory Revisions: None

Minor Essential Revision:

#1) INTRODUCTION: CIN is often used for cervical intraepithelial neoplasia. In order to avoid conflicts I would use another abbreviation.

#2) INTRODUCTION: The introduction has a complete section about external validation. Yet the authors develop a new model themselves, which will not be validated externally. I would shorten this section immensely or omit it.

#3) METHODS: The paper [20] is a previous paper within the same population. It should become clear, what the difference between the two papers is, by reading THIS article. Some readers might be confused as FN could be categorized as a hematological toxicity as well.

#4) METHODS/RESULTS: It is not completely clear, how the 994 patients were selected. What patients were excluded for what reasons?

#5) RESULTS: I am not sure, whether sensitivity and specificity help to describe the clinical situation, as the focus of the clinical situation is a probability (prediction of the future) and not the diagnosis of a FN, which is not yet present in the patient. In my opinion this part of the manuscript could be simplified.

#6) DISCUSSION: Am not sure, whether genetic factors are independent from the clinical decision. What about SNPs that have an influence on the molecular subtype, co-morbidities, BMI ....?

Overall this study is one of the first studies to integrate genetic factors in the prediction of febrile neutropenia. It is well written and consistent. After the above concerns have been addressed, it can be considered for publication.

Level of interest: An article of outstanding merit and interest in its field
Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.