

## Peer Review File

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### Reviewer A

This is the good effort to construct a nomogram and it may help in overall clinical decision making for metastatic breast cancer.

Several patient comorbidities may have negative impact on the OS (overall survival) of the patient and clinical/health status of the patient is very important in treatment decisions. I do not see any considerable discussion on comorbidities or clinical/health status of the patients and how that relates to your data. If data on comorbidities was not collected it may be discussed as a limitation of the study.

Furthermore if there was any differences in outcomes with different histopathological classifications I would suggest to discuss those as well, given histopathological classification is the most commonly used tumor characteristic in treatment planning.

This is a well written manuscript, keep up the good work.

**Comment 1:** Regarding the discussion on the patient's health condition and histopathological classifications that mentioned above.

**Reply 1:** Thank you very much for pointing out this issue; it has provided us with great inspiration for our work. In the present study, we regrettably overlooked the inclusion of pertinent comorbidity data, which is an area requiring improvement in our manuscript. Extensive scrutiny of numerous literature sources has revealed that several chronic ailments, including obesity, diabetes, and cardiovascular diseases, wield substantial influence on patients' overall survival rates. Consequently, we have dutifully acknowledged this limitation within the confines of our discussion section, while concurrently outlining our plans for conducting future research on this subject matter. Regarding the pathological classification, the pathological types of breast cancer in our study have been categorized into invasive lobular carcinoma, invasive ductal carcinoma, and other types. Our data analysis showed that the first two types constituted the majority of the study population (n=1510, 84.8%). Initially, we considered further subdividing the pathological types; however, this approach raised concerns about inadequate sample size and potential bias. It is important to note that in this study, the pathological type of breast cancer was not identified as an independent risk factor with a direct impact on patient prognosis, and regrettably, this aspect was inadvertently omitted in the discussion section. In clinical practice, however, distinct pathological types often correlate with varying prognoses, thereby influencing our treatment strategies. Consequently, in response to your valuable feedback highlighting the article's shortcomings, we have included a comprehensive discussion on this matter in the dedicated section. Once again, we sincerely appreciate your insightful suggestions pertaining to the article.

**Changes in the text:** See Page 8, line 281-289 and Page 8, line 305-311.

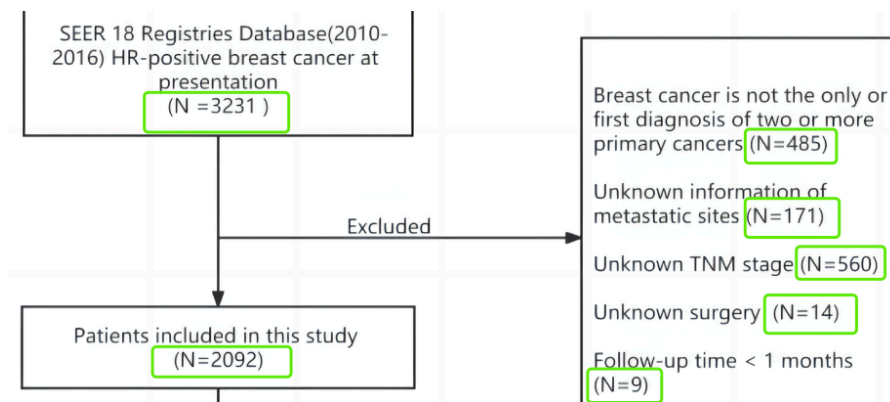
## Reviewer B

1. Please check if more references should be cited in the following sentence since you mentioned “studies”.
  - **Previous studies** have demonstrated that more than 30% of patients with BC develop non-lymph node metastases (4).

**Reply 1:** We have included the relevant literature.

## 2. Figures and tables

- (1) The numbers are not equal in Figure 1. Please revise.



**Reply 2 (1):** We have reviewed and cross-checked the data and made the necessary modifications accordingly.

- (2) Please check through all figures and tables and make sure that all abbreviations have been defined in each legend. For example, please provide the full names of “OS” in the legend of Figures 4 and 6.

You may consider using this format:

E. g. Figure 4. XXXXX. (A) xxxx; (B) xxxx; (C)xxxx. Abbreviations: xxx, xxx; xxx, xxx; ...

**Reply 2 (2):** We have checked the figures and tables and defined each abbreviation in the legends.

- (3) Please provide explanation for “\*\*” “\*\*\*” in Figure 2 and “\*” “\*\*” “\*\*\*” in Figure 3.

**Reply 2 (3):** We have defined the symbols “\*”, “\*\*\*”, and “\*\*\*” in the legends of Figure 2 and Figure 3.

- (4) Please add unit for time in Figures 2-3, 10-11.

$Pr(\text{time} < 36)$

Time

**Reply 2 (4):** We have added the unit for time in Figures 2-3 and Figures 10-11.

- (5) Please check if any description should be added to indicate what yellow and blue bar represent in Figures 10-11.



**Reply 2 (5):** We have already provided descriptions for the yellow and blue bars in Figures 10-11.

- (6) Please revise “Her2” to “HER2” in Tables 1-3 and indicate its full name in Tables footnote.

**Her2**↵

Negative↵

Positive↵

**Reply 2 (6):** The “Her2” entries in Table 1-3 have all been changed to “HER2”.