Peer Review File

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Reviewer A

In order to improve the article I would like to make some considerations.

1. In the introduction, the WHO is cited without reference:

"According to the 2003 World Health Organization (WHO) (REF) Classification, breast carcinomas with neuroendocrine features are classified into three groups based on morphology: ..."

Reply 1: We appreciate your suggestion, and we added the reference (see Page 4 line 133). Changes in the text: "According to the 2003 World Health Organization (WHO) classification [6], ..."

- **2.** Please, explain in material and method what "no cancer cause surgery" means. Was tumor resection performed in these cases or not?
- **Reply 2:** Thanks for your advice, and the clarification has been added to the corresponding section (see Page 5 lines 179-180). Changes in the text: " For surgery of primary tumor, surgery combined with radiation, no cancer cause surgery (surgeries performed are not aimed at addressing or treating the cancer) ..."
- **3.** It is not understood why abbreviations such as chemo or radi are used instead of chemotherapy and radiotherapy or nocasu, surpri, surrad etc.
- **Reply 3:** Thank you for your valuable advice regarding the use of abbreviations in the manuscript. We apologize for any confusion caused. We have carefully reviewed the entire text and made the necessary corrections by replacing the abbreviations with their respective full forms. Please refer to the revised manuscript for the updated version.
- **4.** In the selection of patients, the diagnostic criteria (histological) that have been used in the selection of patients are not indicated, since 97.7% of neoplasms (7676 patients) and 2.3% of non-neoplastic tumors have been included (results section, population analysis). Are they non-infiltrating neuroendocrine tumors? In the abstract, they state that the 7856 patients have a diagnosis of neuroendocrine carcinoma (malignant tumor), which is contradictory.
- **Reply 4:** "Neuroendocrine carcinoma" refers to a type of cancer with different subtypes having different clinical and histological characteristics, including solid neuroendocrine carcinoma, small cell/oat cell carcinoma, and large cell neuroendocrine carcinoma, among others. In our study, for these non-invasive neuroendocrine carcinomas (7856 patients) we selected, we classified solid neuroendocrine carcinomas as neoplastic tumors, which accounted for 7676 patients. Meanwhile, large cell neuroendocrine carcinomas and cell/oat cell carcinomas were classified as non-neoplastic tumors, which accounted for 180 patients.

We appreciate the reviewer's concern, which could cause confusion. We have made the necessary modifications to our paper (see Page 5 lines 175-177). Changes in the text: " our study focused on non-invasive neuroendocrine tumors, and we classified solid neuroendocrine carcinomas as neoplastic tumors while large cell neuroendocrine carcinomas and cell/oat cell carcinomas were classified as non-neoplastic tumors..."

- **5.** In discussion, section 4.1, the WHO citation of the histological classification of 2003 and 2012 is again missing.
- **Reply 5:** We appreciate your suggestion, and we have incorporated the relevant references into the manuscript. (see Page 6 lines 211-212).
- **6.** At the end of this section it is stated that Although NECB is rare, "its prognosis is similar to that of other types of breast cancer", it would be convenient to add the reference to this statement.
- **Reply 6:** We appreciate your suggestion, and we have incorporated the relevant references into the manuscript. (see Page 7 line 288).
- **7.** As a suggestion, I think it would be more appropriate to title section 4.2 without abbreviations:
- "4.2. Race, radi, chemo, and surrad", race radiotherapy, chemotherapy and surgery, or whatever you see fit.
- **Reply 7:** We appreciate your suggestion, and we have made the necessary adjustment. (see Page 7 line 229).
- **8.** In the discussion, the issue of marital status and prognosis is highly controversial, with some inconclusive hypotheses such as those mentioned.

It would be necessary to see if the same tumour with the same stage, age, etc. has different survival. In reference 29 which makes the association of marital status (4 groups) only singles with stages III-IV have significant differences in survival at 10 years with respect to married, 2.9 vs 3.9, not being significant for the rest of the stages and marital status. "Single was an independent prognostic factor for stage III+IV patients (Table 3, HR = 1.225, 95%CI 1.054–1.423, P = 0.008)", hence the statement that the married state relationship can improve the prognosis of patients with NECB, may be questionable.

Reply 8: We appreciate your thoughtful insights and we have modified the discussion to adopt a more cautious stance and to reflect the controversy surrounding the impact of marital status and cancer survival. (see Page 8 lines 266-299).

9. Regarding references

Some citations have more than 6 authors and should include 6 authors et al **Reply 9:** We appreciate your suggestion, and we have made the necessary adjustment. (see Pages 8-10).

Reviewer B

- 1. Figures and tables
 - Please double check below data in Table 1, and please make sure all data in the text are **consistent** with the relative table.
 - Surgery was performed in 2,252 (28.7%) cases, ...

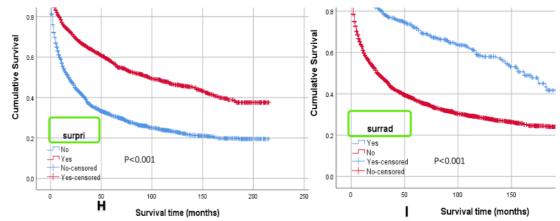


- 3,640 (44%) patients either were either alive or dead from other causes, ...

Survival/death attributed 3460← 44.0%←

- Please check through your Figures and Tables to ensure all the abbreviations have been defined in **each** legend. For example, please provide the full names of "NECB" in the legend of Table 1.
- Figure 3:

It's suggested to complete all label words in Figure 3F-L, for example as below.



Reply 1: We have checked and revised all the figures and tables according to your warm recommendations.

- 2. Please revise the STROBE reporting checklist. Please kindly check item 6a, 6b, 14c, and item 15. This should be a cohort study. Please re-fill these items. Please fill corresponding information in line 1 of item 15 and fill N/A in line 2, 3.
 - **Reply 2:** We have checked the STROBE reporting checklist and revised the items according to your recommendations.