

RESPONSE TO REVIEWERS' COMMENTS

Reviewer #1:

Specific Comments to Authors: In this study, the authors found that elevated post-treatment S.CEA levels were associated with disease progression and poor response to therapy in breast cancer. Responders had significant fall in Serum CEA level but that was clinically significant in luminal breast cancer type. CEA is a broad-spectrum tumor biomarker with a diagnostic sensitivity of about 20% in breast cancer. Indicators of individual breast cancer tumor markers do not appear to be ideal. Breast cancer tumor markers are not suitable for the early diagnosis of breast cancer, but they play an irreplaceable role in the evaluation of prognosis and monitoring of recurrence and metastasis of breast cancer.

Why not consider to combine it with other potential biomarkers, like cfDNA content?

It is a valuable suggestion. We did not combine it with other potential biomarkers, like cfDNA content due to the fact that serum CEA was easily done biomarker at our local labs. Cf DNA was costlier. Moreover, a serum CEA was a cheap investigation that can be easily applied to outpatient monitoring of the disease.

There are two reasons why CEA is elevated: one is caused by the tumor, and the other is that inflammatory factors also cause the elevation of CEA. So, it's important to exclude inflammatory factor to design this project.

In this study, we have excluded the patients with inflammatory breast cancers and other inflammatory conditions which could raise the values of serum CEA. This is included in the text at methods section.

Generally, CEA value greater than 5.0 is considered positive, while in this paper, a value higher than 3.8 is considered positive. What is the basis for this?

Our Local hospital lab biochemistry reference range is 3.8. Hence, we used that cut off.

Another question is the number of patients. Due to the small sample size in this experiment, the significance of statistical results is affected. It is suggested to expand the sample results and re-analyze the results, which may be more reliable.

Exactly sir. One of our limitations is small sample size. We designed the study and got approval from EC for 50 patients only due to the funding problem as well as, since it is not a recommended biomarker tool for monitor in MBC for routine management in our country. Moreover, the study was closed after the whole patients (50) enrolled. Hence expanding sample size is not feasible now.

I have included in the text discussion part that- One major limitation of the study is that of small sample size of 50 patients and needs larger studies to confirm the findings.

Reviewer #2:

Specific Comments to Authors: In this prospective article, the authors attempted to investigate the significance of serum carcinoembryonic antigen in patients with metastatic breast cancer. Although the article has high scientific quality and language quality, several minor flows need to be improved before publication.

Minor Comments:

1. Article format, spacing, punctuation marks, spelling errors, abbreviations, frequencies and percentages should be reviewed wholly.

Article format, spacing, punctuation marks, spelling errors, abbreviations, frequencies and percentages reviewed and corrections made accordingly

2. All tables should be reviewed, and modified appropriately as required.

All table have been reviewed and modified accordingly

3. Authors need to supplement recent references published in the last 5 years (A total of 13 references are cited, including 2 references published in the last 5 years).

Supplemented recent references published in the last 5 years and replaced the older ones.

Now total of 30 references

EDITORIAL OFFICE'S COMMENTS

Authors must revise the manuscript according to the Editorial Office's comments and suggestions, which are listed below:

(1) Science editor:

This manuscript investigates the significance of serum carcinoembryonic antigen in patients with metastatic breast cancer. The topic of this case is interesting, but there are some concerns. First of all, the sample size of this study is small which may influence the the significance of statistical results. Please add more reference (especially references from the recent 5 years) if possible since the asked references number of this type of manuscript is 30 at least.

Language Quality: Grade B (Minor language polishing)

Scientific Quality: Grade C (Good)

Supplemented recent references published in the last 5 years and replaced the older ones.

Now total of 30 references

Exactly sir. One of our limitations is small sample size. We designed the study and got approval from EC for 50 patients only due to the funding problem as well as, since it is not a recommended biomarker tool for monitor in MBC for routine management in our country. Moreover, the study was closed after the whole patients (50) enrolled. Hence expanding sample size is not feasible now.

I have included in the text discussion part that- One major limitation of the study is that of small sample size of 50 patients and needs larger studies to confirm the findings.

(2) Company editor-in-chief:

I have reviewed the Peer-Review Report, the full text of the manuscript, and the relevant ethics documents, all of which have met the basic publishing requirements of the World Journal of Clinical Oncology, and the manuscript is conditionally accepted. I have sent the manuscript to the author(s) for its revision according to the Peer-Review Report, Editorial Office's comments and the Criteria for Manuscript Revision by Authors. Before final acceptance, uniform presentation should be used for figures showing the same or similar contents; for example, "Figure 1 Pathological changes of atrophic gastritis after treatment. A: ...; B: ...; C: ...; D: ...; E: ...; F: ...; G: ...". Please provide the original figure documents. Please prepare and arrange the figures using PowerPoint to ensure that all graphs or arrows or text portions can be reprocessed by the editor. In order to respect and protect the author's intellectual

property rights and prevent others from misappropriating figures without the author's authorization or abusing figures without indicating the source, we will indicate the author's copyright for figures originally generated by the author, and if the author has used a figure published elsewhere or that is copyrighted, the author needs to be authorized by the previous publisher or the copyright holder and/or indicate the reference source and copyrights. Please check and confirm whether the figures are original (i.e. generated de novo by the author(s) for this paper). If the picture is 'original', the author needs to add the following copyright information to the bottom right-hand side of the picture in PowerPoint (PPT): Copyright ©The Author(s) 2022. Authors are required to provide standard three-line tables, that is, only the top line, bottom line, and column line are displayed, while other table lines are hidden. The contents of each cell in the table should conform to the editing specifications, and the lines of each row or column of the table should be aligned. Do not use carriage returns or spaces to replace lines or vertical lines and do not segment cell content.

Checked and confirmed whether the Tables/ figures are original.