

Manuscript ID: 75136

Type 2 Dynamic Curves: A Diagnostic Dilemma

Dear Editor,

Thank you for giving us the opportunity to submit a revised draft of the manuscript. We appreciate the time and effort that you and the reviewers dedicated to providing feedback on our manuscript and are grateful for the insightful comments on and valuable improvements to our paper. We have incorporated most of the suggestions made by the reviewers. Those changes are highlighted with track changes function through the manuscript. Please see below for a point-by-point response to the reviewers' comments and concerns.

Reviewer #1 COMMENTS:

1. "Please provide the register number obtained from the ethical committee approval."

1. Response: In line with your suggestions, we added the ethics committee number to the relevant place in the material method section.

2. "No sample size calculation was performed. Therefore, it is not actually possible to know whether the findings of the study are true findings or chance."

2. Response: In line with your suggestions, we added the results of the sample size calculation, which we previously performed using G power analysis, to the relevant section in the material method section. The sentence we added is available below.

"The sample size was calculated using G power analysis (alpha error: 0.05, power: 90%); the minimum number of patients was thus defined as 31."

3. "The Kolmogorov-Smirnov test was used to determine whether the data conformed to a normal distribution." You checked the normal distribution of which parameters? And in order to use which kind of statistical tests? This is not clear.

3. Response: In line with your suggestions, we have changed the relevant section. We have used the Kolmogorov-Smirnov test to define the normal

distribution of the age. Since age is the only numeric parameter, we could not use the results of the Kolmogorov-Smirnov test for further analysis, further analysis was mainly performed for the other categorical parameters. The revised and edited version of the statistical analysis paragraph is available below.

“The sample size was calculated using G power analysis (alpha error: 0.05, power: 90%); the minimum number of patients was thus defined as 31. The Statistical Package for Social Sciences (SPSS) for Windows 20 software was used to analyze the data (IBM SPSS Inc., Chicago, IL, USA). The Kolmogorov-Smirnov test was used to determine whether the age data conformed to a normal distribution. Age was represented as mean standard deviation (SD) values and categorical variables as number (n) and percentage values (%). To define the diagnostic efficacy of type 2 dynamic curves alone and along with morphological characteristics, Receiver Operating Characteristic (ROC) analysis was used. The chi-square test was used to compare two groups of categorical variables.

Statistical significance was defined as a two-tailed value of $p < 0.050$.”

4. “Most of the Discussion section consists of paragraphs with pure literature review or with paragraphs beginning with a repetition of the results followed by the citation of the results of other studies, without an actual discussion of the findings of the study. The authors need to address this issue.”

4. Response: We revised the discussion and made some additions and corrections based on your suggestions.

Firstly, we added a paragraph at the beginning of the discussion stating the purpose of our study and our important findings in a few sentences. This paragraph we added is below.

“In our study, we investigated histopathological results of type 2 dynamic curves obtained from dynamic contrast magnetic resonance imaging, which plays a critical role in the evaluation of breast lesions. We found that the type 2 dynamic curve had a sensitivity of 40.2% and a specificity of 73.4% in predicting malignancy. Additionally, we found that combining type 2 dynamic curve with morphological findings increased sensitivity and specificity.”

Second, at the end of the first paragraph of the discussion, we added the following sentences.

“When these data in the literature are reviewed, it is understood that the results of dynamic curves, especially type 2 dynamic curves, may be contradictory. For this reason, we conducted a study investigating the type 2 curve's histopathological results. Our findings in our study show that type 2 dynamic curve can be an important finding in demonstrating malignancy and supports other data in the literature contrary to the study of Williams et al.[25]”

Third, at the end of the second paragraph of the discussion, we added the following sentences.

“According to these results, our study's malignancy rates were higher than those reported in the literature, but the sensitivity and specificity rates were similar. This could be due to the small number of patients in our study, which is a limitation of our study. As supported by our findings and the literature, the type 2 dynamic curve indicates an increased risk of malignant lesions. These results led us to believe that in the presence of a type 2 dynamic curve, we should exercise caution in terms of suspicion of malignancy.”

Finally, we combined the third and fourth paragraphs of the discussion and added the following sentences in between.

“According to these data, we also examined the type 2 dynamic curve's sensitivity and specificity for detecting malignancy both alone and in combination with the BIRADS classification.”

Reviewer #2

1. “The authors report an interest topic in DCE MRI for the diagnosis of breast lesions with focusing on the type 2 dynamic curves. And the authors found that AUC values, the sensitivity and specificity are increased for the detection of breast lesions by combining type 2 curves and morphological features. The finding of the study is useful for clinicians. Of course, more cases and multicenter experiments should be performed to confirm the reliability of the research conclusions.”

Response: Thank you for your acceptance.

EDITORIAL OFFICE'S COMMENTS

(1) Science editor:

1. "The form of the table in the article should adopt the form of a three-line table.

Response: We reviewed and edited the tables in line with your suggestions.

(2) Company editor-in-chief:

1. "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 Radiology, 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: ..."

Response: We reviewed and edited the figures in line with your suggestions.

2. 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.

Response: We reviewed and edited the tables in line with your suggestions.

Response to reviewers' comments: 01. The population size was calculated according to an on-line calculated, which can be found in the website: <https://clincalc.com/stats/samplesize.aspx> Known population parameter was defined according to the studies about breast malignancy from the same country. The other chosen parameters from the web site was: "one study group vs. population" and "Dichotomous" Thank you for the warning wright about the power, it should be 80%, it was corrected. 02. We have previously added the mentioned paragraph to briefly summarize the important results in the beginning of the discussion. We did not intend to repeat our findings. 03. Here, we have summarized Kuhl et. al (15) and Bluemke et. al's (16) results. After these information about the literature, we have compared our findings with these two studies. By saying literature, we implied these two studies, references 15 and 16. We have added the reference numbers after "according to these results...". We have omitted the sentence about population number. 04. We have compared malignancy rates and the distribution of the dynamic curves with Kuhl et. al (15) and Bluemke et. al's (16) results. Furthermore, we contrasted and confirmed our advice for employing dynamic curves with BIRADS categorization and morphological characteristics in earlier works with reference numbers 14, 27, 28, 29.