Reviewer’s report

Title: Apparent Diffusion Coefficient cannot predict molecular subtype and lymph node metastases in invasive Breast Cancer. A multicenter analysis

Version: 0 Date: 22 Sep 2019

Reviewer: Hee Jung Shin

Reviewer's report:

This paper evaluated the relationship between ADC and molecular subtype and lymph node metastasis in invasive breast cancer from multicenter data analysis. This topic may be important in order to recognize ADC as a biomarker of breast cancer assessment. However, there was vague and important methodological problem in the ADC analysis and DWI acquisition because this study was retrospective analysis and they did not analyze the external validation. Several specific comments are as follows;

1. Abstract: There was mismatch between the title and conclusion regarding LN metastasis. In the conclusion, there was no description about prediction of LN metastasis. Please clarify and modify the description.

2. Methods: There was no detailed description about DWI acquisition of multiple institutions. DWI acquisition including number of b value and spatial resolution can influence the ADC measurement. So please describe in detail about DWI acquisition protocol.

3. Method: There was no detailed description about ADC measurement. ADC values could be significantly influenced by ADC measurement methods; 2D vs. 3D; manual vs. semiautomatic; one representative slice vs. whole tumor..etc. Did one radiologist draw ROI or did two or more radiologists draw ROI in consensus?

4. Results: Subgroup analysis may not be enough. For example, was there a difference of ADC values between different T or N stage among the same molecular subtype? I think that the addition of subgroup analysis of each molecular subtype may be needed to clarify the conclusion.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

No
Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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