Reviewer's report

Title: Diagnostic performance and inter-observer concordance in lesion detection with the Automated Breast Volume Scanner (ABVS)

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Reviewer: Gokhan ERTAS

Reviewer's report:

The manuscript by Wojcinski et al. describes the diagnostic performance and inter-observer concordance in lesion detection with the Automated Breast Volume Scanner. It is a quite good work. Here are my comments to the authors:

Minor Essential Revisions

Page 8: The inplane resolution of the images should be inserted after "300 high resolution slices".

Page 10: In the manuscript, it is told that first suspicious regions are marked with the systems default tool and all of the "potential" lesions selected are evaluated by the physicians. This would cause some some bias that would increase the number for false-positives. This issue should be clarified!

Page 11: It is told that the physicians know that there are no BIRADS-US 0,3 or 4 cases in the database. This would also lead to some bias that should be discussed in the manuscript.

Page 13: Mean tumor size are reported for malignant lesions. A similar reporting should be done for benign lesions.

Page 23: It is told that, roughly, 95% of breast parenchyma is included in the scanned volume. I wonder how the authors reach this conclusion. This should be clarified in the manuscript.

The time required for the physician to complete his evaluation from the 3D images acquired should be mentioned and discussed in the manuscript.

In evaluation of breast cancer, it is also very important to assess lymph node extent. But this is impossible with ABVS. This issue should be discussed in details in the manuscript.

I wonder what happens when the automated lesion identification tool that comes with the ABVS's software is turned off.

Major compulsory revisions

Page 19: Authors mention that "there is no data in the literature describing the interobserver concordance in lesion detection with the ABVS, and our study is
the first to scrutinize this issue.”. Unfortunately this is not correct. I recommend the authors to read the following published papers and inspire them in the manuscript in details:

Shin HJ, Kim HH, Cha JH, Park JH, Lee KE, Kim JH.

Interobserver reliability of automated breast volume scanner (ABVS) interpretation and agreement of ABVS findings with hand held breast ultrasound (HHUS), mammography and pathology results.

**Level of interest:** An article of limited interest

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**
I declare that I have no competing interests