

Dear Dr. Wang,

RE: First Revision Manuscript NO.: 76110: Inter-reader reliability of ultrasound O-RADS risk stratification amongst less experienced readers in a North American institution before and after training.

AUTHORS: Prayash Katlariwala, Mitchell P. Wilson, Yeli Pi, Baljot S Chahal, Roger Croutze, Deelan Patel, Vimal Patel, Gavin Low

Thank you kindly to you and your reviewers for your useful comments to improve our manuscript. We were pleased to see the positive reviews for your individual reviewers. We have revised our manuscript according to individual recommendations which are outlined on a point-by-point basis below and are described in the annotated version of the revised manuscript. We hope you will find the revisions appropriate to WJR standard.

This manuscript is solely submitted to WJR. We have no conflicts of interest or funding to declare. Again, thank you sincerely for considering this review for publication in WJR.

We look forward to your decision.

Respectfully,

Prayash Katlariwala, BSc (*Corresponding author*)
Department of Radiology and Diagnostic Imaging, University of Alberta
2B2.41 WMC, 8440-112 Street NW, T6G 2B7
Edmonton, Alberta, Canada
Email: prayashvk@gmail.com
Phone: 403-968-1475

Reviewer #1:

Specific Comments to Authors

Title: Appropriate.

RESPONSE: Thank you for your kind comments and detailed review of our manuscript.

Abstract: Generally good, however, to make a conclusion about misclassification of potentially malignant lesions, training about dermoid features or wall/septation morphology, some results about them must be given in the results part of the abstract.

RESPONSE: We have updated the abstract to include results outlining the frequency of errors when classifying dermoid feature or wall/septation morphology.

Keywords: Not present in the manuscript file.

RESPONSE: Keywords have been added to the manuscript.

Key results: Appropriate.

RESPONSE: Thank you.

Introduction: Ok

RESPONSE: Thank you.

Materials and methods: 1. Did authors include only one mass per patient or were there any cases with bilateral ovarian/adnexal masses? I ask this because especially for O-RADS 5 lesions, bilateral ovarian malignancy is common, and this may cause bias in assessing the contralateral mass of the patient. Please clarify this in the text.

RESPONSE: The images used for the training and testing contained singular lesions or, in the cases of multiple lesions, they were located ipsilaterally and had an arrow denoting which lesion was the one of interest.

Results: 1. "Readers misclassified 22 (14.7%) of 150 lesions" This would be 100 lesions I assume. 2. According to table 1 and 3, the PPVs of R2 and R3 has decreased 14-16% for O-RADS 3 lesions after training. Do the authors have an explanation for that? What was their most common mistake in that sub-group? This could be added to the discussion.

RESPONSE: Thank you. For clarification:

1. 150 lesions refer to the 150 total cases that were examined (50 cases x 3 readers). However, we have updated so it now reads "cases" rather than "lesions" to address this ambiguity.
2. It is unclear exactly why there were errors made when classifying O-RADS 3 lesions however, it was noted in the discussion that "Most commonly, these were characterized as a multilocular lesion with a smooth inner wall (O-RADS 3) in both pre-training and

post-training assessment, suggesting that specific training on this finding was not sufficient in the current study” and that “specific training about typical dermoid features and smooth versus irregular margins of ovarian lesions may help”.

Discussion: 1. I agree with the authors that wall irregularity is the most challenging one of the descriptors, either irregularity of the inner wall or the outer contours. Did the authors do an analysis regarding the use of correct descriptors separately? Because if they all label the same but wrong descriptor, they misclassify the lesion, however interobserver variability becomes high. Therefore, did the training influence accurate definitions of descriptors on each case? This could be mentioned in the discussion part. In addition, if the authors include a such analysis, they may have an idea on which descriptor they will emphasize much more during training.

RESPONSE: Inter-reader agreement was evaluated using the O-RADS score only to simplify the present study design. The reviewers’ comment about specifically analyzing lexicon descriptors is well articulated and provides an interesting opportunity for future studies, though would likely require a larger number of included lesions or pooled analysis to increase the total number of misclassified lesions and garner sufficient power for analysis.

References: ok. The reference below could be added also. “Strachowski LM, Jha P, Chawla TP, Davis KM, Dove CK, Glanc P, Morgan TA, Andreotti RF. O-RADS for Ultrasound: A User's Guide, From the AJR Special Series on Radiology Reporting and Data Systems. AJR Am J Roentgenol. 2021;216(5):1150-1165”

RESPONSE: Thank you for your recommendation. In our opinion, there is questionable additional value in including this reference as we have already cited the primary source of the information used as the foundation for this article.

Figures and tables: 1. Figure 1 and 2 may be merged.

RESPONSE: Thank you for your recommendation. For clarity in presentation, we have chosen to present ROC results in pre-training and post-training assessments as separate figures.

Reviewer #2:

Specific Comments to Authors:

Title. Appropriate

RESPONSE: Thank you for your kind comments and detailed review of our manuscript.

Abstract. Appropriate

RESPONSE: Thank you.

Key words. Appropriate

RESPONSE: Thank you.

Background. Appropriate

RESPONSE: Thank you.

Methods. Appropriate

RESPONSE: Thank you.

Results. Appropriate

RESPONSE: Thank you.

Discussion. Appropriate

RESPONSE: Thank you.

Illustrations and tables. In table , the frequency of the some errors are seen to increase after treatment, please explain/discuss the possible causes.

Biostatistics. Appropriate

RESPONSE: Thank you.

Units. Appropriate

RESPONSE: Thank you.

References. Appropriate

RESPONSE: Thank you.

Quality of manuscript organization and presentation. Appropriate

RESPONSE: Thank you.

Research methods and reporting. Appropriate

RESPONSE: Thank you.

Ethics statements. Appropriate

RESPONSE: Thank you.

COMMENT TO EDITOR: Additional minor edits have been provided as detailed in the manuscript for noted grammatical errors and sentence redundancy on revision re-review.