Reviewer’s report

Title: Cervical Spine Osteoradionecrosis or Bone Metastasis after Radiotherapy for Nasopharyngeal Carcinoma? The MRI-Based Radiomics for Characterization

Version: 0 Date: 12 Jun 2020

Reviewer's report:

This is a well written and conducted manuscript. The authors aimed to explore the value of MRI based radiomics to differentiate cervical spine ORN from metastasis in NPC. Even though the sample was not large, the results provide a reliable method for extracting radiomics information and can be used in future studies to address this condition better. I have minor comments that are addressed below.

1) Why is there a question mark in the title? The title is not concise, and the question proposed in the title does not add substantial and/or relevant information for the reader. Please, change it as you prefer, as a suggestion: MRI-Based Radiomics for differentiation of cervical spine osteoradionecrosis from metastasis after radiotherapy.

2) Please, provide the meaning of ORN before citing it in your first paragraph of the Abstract.

3) Is there a number for the institutional review approval? Please added this information if it exists.

4) Which were the criteria to divide the patients into training and validation sets? Why were some patients assigned as training and others as validation? Was randomization done?

5) "The training set showed similar baseline clinical characteristics with that of validation cohorts (P > 0.05), except for the frequency of cervical lymphadenopathy (P < 0.001)" Where are the clinical characteristics of the patients with this information? Maybe you can provide a supplementary file with that information.

6) Table 1) Why is there a P-value in the column male?

7) Which are the sensitivity and specificity of the criteria that you used as a gold standard to diagnose the patients? I think it is necessary to discuss this since the radiomics quantification does not compute human error (only for ROI denotation), on the other hand, the primary diagnostic based on radiologist observation could contain the wrong diagnosis (since your patients did not have histology assessed).

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

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

Yes

Are the conclusions drawn adequately supported by the data shown?  
If not, please explain in your comments to the authors.

Yes

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 recommend additional statistical review

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

Acceptable

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