PEER-REVIEW REPORT

Name of journal: *World Journal of Radiology*

Manuscript NO: 75941

Title: Molecular Imaging as a tool for evaluation of COVID-19 sequelae – A review of literature

Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 04702120

Position: Editorial Board

Academic degree: PhD

Professional title: Associate Professor

Reviewer's Country/Territory: Thailand

Author's Country/Territory: India

Manuscript submission date: 2022-02-22

Reviewer chosen by: AI Technique

Reviewer accepted review: 2022-03-16 05:53

Reviewer performed review: 2022-04-02 00:42

Review time: 16 Days and 18 Hours

Scientific quality	[ ] Grade A: Excellent [ ] Grade B: Very good [Y] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Language quality	[ ] Grade A: Priority publishing [Y] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [ ] Accept (General priority) [Y] Minor revision [ ] Major revision [ ] Rejection
Re-review	[ ] Yes [Y] No

| **Peer-reviewer statements** | Peer-Review: [Y] Anonymous   [   ] Onymous |
| | Conflicts-of-Interest: [   ] Yes   [Y] No |

SPECIFIC COMMENTS TO AUTHORS

The authors are interested in using medical imaging in COVID-19 and focusing on molecular imaging, and most of them are focused on nuclear medicine. However, MRI is one of molecular imaging. Therefore, please provide additional MRI Neuroimaging such as diffusion tensor imaging (DTI) and the limitation of MRI.

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Title: Molecular Imaging as a tool for evaluation of COVID-19 sequelae – A review of literature

Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 03716593

Position: Editorial Board

Academic degree: MD, MSc, PhD

Professional title: Associate Professor

Reviewer's Country/Territory: Italy

Author's Country/Territory: India

Manuscript submission date: 2022-02-22

Reviewer chosen by: Jia-Qi Zhu

Reviewer accepted review: 2022-04-12 14:42

Reviewer performed review: 2022-04-15 16:39

Review time: 3 Days and 1 Hour

Scientific quality	[ ] Grade A: Excellent [Y] Grade B: Very good [ ] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Language quality	[ ] Grade A: Priority publishing [Y] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [ ] Accept (General priority) [Y] Minor revision [ ] Major revision [ ] Rejection
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Peer-reviewer statements	Peer-Review: [Y] Anonymous [ ] Onymous
	Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

The authors deal with a relevant and timely topic, i.e., the molecular imaging as a novel tool for the evaluation of some COVID-19 sequelae. To this end, they reviewed the current literature concluding that, although not ideal for diagnosis, the different modalities of molecular imaging may play a role in assessing both pulmonary and extra-pulmonary sequelae of COVID-19. However, widespread clinical applicability remains a challenge owing to longer image acquisition times and the need for adoption of infection control protocols. Overall, this review is nicely conceived; the studies included are relevant and the main findings are adequately presented. However, there are few comments to the authors, requiring some revision.   Abstract: please include the added value of the present review, including a more detailed description of the findings from the studies reviewed, as well as their main limitations and research agenda. Introduction: please provide a more technical background on molecular imaging and its main applications.   Methods and Results: although the narrative design of this review, a brief "Methods" section including the search criteria and the selection strategy adopted should be included; the same holds true for a short "Results" section showing the studies originally retrieved, then selected, and eventually included.   Vasculitis: please expand this section by providing more background on COVID-19-related CNS complications of vasculitis syndromes (for a recent comprehensive review, please see PMID: 35138587).   Neurological Sequelae: please describe the main neuropathological findings of COVID-19- (e.g., PMID: 33546463); these may represent the correlates of molecular neuroimaging and should be mentioned.   Conclusions: before this section, please include a paragraph highligthing the added value of the present review, a brief

comment on the studies reviewed, their main limitations/caveats, possible solutions, and the research agenda. Finally, the point of view/authors' perspective may be further emphasized here.

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Language quality	[Y] Grade A: Priority publishing [ ] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [Y] Accept (General priority) [ ] Minor revision [ ] Major revision [ ] Rejection

Re-review	[Y] Yes [ ] No
Peer-reviewer statements	Peer-Review: [ ] Anonymous [Y] Onymous
	Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

Congratulations to the authors for this interesting minireviews in explore the potential utility of molecular imaging modalities in evaluating the long-term sequelae of COVID-19.   This manuscript is easy to read, and interesting. The title and abstract cover the main aspects of the mini-reviews. The content and conclusion are relevant. The novelty is high The applicability is high

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Conclusion	[ ] Accept (High priority) [ ] Accept (General priority) [Y] Minor revision [ ] Major revision [ ] Rejection
Re-review	[Y] Yes [ ] No

Peer-reviewer statements	Peer-Review: [Y] Anonymous [ ] Onymous
	Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

The authors mini-reviewed the usage of molecular imaging in assessing pulmonary and extra-pulmonary sequelae of COVID-19. The authors accomplished an interesting work summarizing the clinical utilities of various imaging modalities used for diagnosis, triaging and evaluation of complications in Covid-19 disease. The collection of the literature data was careful, accurate and sufficient for a mini review. I enjoyed reading this work.   Minor comments: 1. Anatomical imaging: Please describe the difference between routine CXR and chest CT and provide a smooth transition from CXR to CT after first paragraph. CT is not yet become a near-universal like routine CXR, especially in many poor places in the World where Covid-19 hit most severely.   Please add more information why chest CT is more valuable compared to routine CXR in respect to lung anatomy/virus-specific damage/age/lung complications of Covid-19.   2. All abbreviations should be defined at the first use (for example: CTPA, LAD and others). 3. Figure 1: Please distinguish the main square "Molecular imaging…" with the bold and change the lines with arrows. Please provide definitions for all abbreviations used in this Figure.   4. Neurological Sequelae: Please explain the "cerebrovascular events" (paragraph 1). 5. Figure 2-4: Please give the title to the figures.