Reviewer’s report

Title: Reduced scan range abdominopelvic CT in patients with suspected acute appendicitis - Impact on diagnostic accuracy and effective radiation dose

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Reviewer: Yingxin Chen

Reviewer's report:

Appendicitis is one of the most common cause of abdominal pain and affects patients of all age groups. Computed tomography is a powerful and widely used alternative with high accuracy in diagnosing acute appendicitis. However, its major drawback is the radiation exposure which is of interest especially in younger persons who are frequently affected by acute appendicitis.

The results of this study show that a limited-range CT scan prescribed from the superior endplate of L1 to the top of the pubic symphysis is as accurate as a full abdominopelvic CT scan in the diagnoses of acute appendicitis in adult.

The appendix was visualized in every patient's limited scan. None of the 63 cases of acute appendicitis were missed with the limited scan when compared to the full scan. Total effective dose was reduced by approximately 39 percent, a significant difference. Notably, a remarkable reduction of organ dose in the female breasts by 97% and in the testicles in males by 81% was observed for reduced range CT compared to full range CT.

Overall, the manuscript is relatively well written, the statistics are nicely performed and the study contains some provocative data given previous findings. However, I have a number suggestions detailed below.

1. "Its major drawback is the radiation exposure which is of interest especially in younger persons who are frequently affected by acute appendicitis.". However, the patients in this study were included (43 female, 47 male, mean age 56.7±17 years). Please provide the information of radiation exposure injury on adult.

2. If possible, please amend the data of table 1 in bar chart, which would be more useful to show the significant difference.

3. It was a single-center study. Did this study perform in multi-center?

4. MR exams are another option for diagnosing appendicitis, no ionizing radiation. Please discuss it the advantage and disadvantage to strong the clinical significance of this study.
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 am able to assess the statistics

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

Needs some language corrections before being published

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