Reviewer’s report

Title: Unenhanced multidetector computed tomography findings in acute central pulmonary embolism

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Reviewer: Ernest Ekpo

Reviewer’s report:

General comments: This resubmitted paper sought to assess the diagnostic performance of non-enhanced MDCT for pulmonary embolism. A major limitation is the sample size. The regression analyses do not well capture the aims of the work, and the discussion needs some work.

Abstract:

Background: good

Methods: last sentence change "predict" to a more suitable word. "Predict" in this sentence means there is no PE yet, but "MDCT shows that there will be PE in the future"

Results: The second and third sentences need to be revised to enhance clarity. E.g MDCT had a sensitivity of 71.9% and specificity... when there was high attenuation embolus in the PA... How was the Wells scores assigned?

Why report performance for emboli in PA alone MDCT? It would be better to report the sensitivity and specificity of MDCT for each of the features of PE defined in the methods or present the overall performance of MDCT regardless of the features. Last sentence in the results requires a revision.

Line 42: This is not a prediction study, it is a diagnostic performance study. Please change the word "predicting" to a more appropriate word

Introduction: A better rationale is needed. What are the limitations of these few studies that necessitate further studies? What is the relevance of identifying the most sensitive MDCT criteria for the diagnosis of PE on MDCT? What is the essence of comparing MDCT to Wells score when you have clearly established that Wells Score is not a good tool for the diagnosis of PE?

Methods
The sample size is very small

P4lines 82 is redundant. There is no relevance in stating the capacity of the hospital.

I am not quite sure how regression analyses fit these data. Regression analysis examines which of the independent factors contribute to the dependent variable. Using the word predict PE, sounds like MDCT features contribute or are predictors of PE.

Again, it is unclear what the multivariate analyses were for. Is it to establish how age and sex predict Wells Score? If so, are they determinants of Wells Score? The ORs aren't relevant. I would suggest a simple diagnostic performance study focusing on sensitivity, specificity, PPV, PNP, PLR (Positive likelihood ratio), NLR (negative likelihood ratio)

Results:

P7Line153-q54: Rephrase, the p-value reported shows no significant difference between ages of individuals with and without a PE

P8line 175: provide the exact cut off point and describe what it means.

P8L181: See previous comment. Why are you comparing MDCT to a method (Wells Score) that you have acknowledged to have significant limitations? Again, saying that AUC represents "predictability" is incorrect. AUC is a global measure of performance of the tool, which in this case is the ability of MDCT to detect PE, not predict PE. Detection and prediction are two different things. For the purpose of this study detection is a better term. Detection is ability to identify the presence of PE; Prediction is the ability to forecast PE

Discussion: This needs to be thoroughly reworked. This section mainly provides a quantitative summary of the results and compares their findings to other studies. There is no discussion about the qualitative meaning of these results, what this has added to the existing literature, the implications of the findings and their relevance to patient, and this should influence policy and practice.

P9185-187: provide a qualitative summary of the results instead of restating the quantitative results

References: There are a few factual statements that should be supported with the appropriate references.

Tables: Fine

Figures: Fine
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

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Needs some language corrections before being published

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