Reviewer’s report

Title: Influence of trigger type, tube voltage and heart rate on calcified plaque imaging in prospectively ECG-triggered high pitch cardiac computed tomography

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Reviewer: Sebastian Leschka

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Influence of trigger type, tube voltage and heart rate on calcified plaque imaging in prospectively ECG-triggered high pitch cardiac computed tomography

Introduction:
1. Complete the first sentence (both in emergency setting and ?).
2. Modify the last sentence of the first paragraph. This is not in accordance to the content of the cited reference (Einstein, A.J., et al., Radiation dose to patients from cardiac diagnostic imaging. Circulation, 2007). It is an exaggeration with regards to the ionizing radiation of both protocol since there are multiple of strategies in minimizing radiation dose in cardiac imaging.

Materials and Methods:
CT Examination protocol
In retrospective ECG gated protocol, was pulsing done between 50-100% in all 3 different heart rates and what is the rationale.

Measurements
Were the measurement performed by a single observer? State the number of readers who performed the measurements and years of experience in cardiac imaging.

Results:
Comparison to Phantom Dimension
In first paragraph, the sequence of comparison was prospective ECG triggered and retrospective ECG-gating with the respective diameter and plaque thickness results. In the end of the paragraph it was reverse for the degree of stenoses. If this is the case then retrospective gated overestimated in vessel diameter and plaque thickness measurements more than retrospective gated. Check and make corrections.

Radiation Dose Comparison
The results are expected. But what about for the 3 different heart rates? Were they measured?

Discussion:
Specify the type of CT scanner that gave an effective radiation dose of 30 mSv, either with 64 slice CT scan or DSCT. At the same time provide the range with invasive coronary angiography not only 5 mSv. Get the data from reference 3 (Einstein etc).

Fourth paragraph, < 60 bpm is an inclusion not exclusion.

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.