Reviewer's report

Title: Visualization of anomalous origin and course of coronary arteries in 748 consecutive symptomatic patients by 64-slice computed tomography angiography

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Reviewer: Ludovico La Grutta

Reviewer's report:

The authors evaluated the prevalence of anomalous origin and course of coronary arteries in a large population of consecutive patients who underwent 64-slice CT Coronary Angiography for suspected CHD.

The manuscript would be undoubtedly of great interest to the readers of the journal.

However, some major revisions are required.

Major Compulsory Revisions

Abstract - Background: It would be better to focus on anomalous origin and course of coronary arteries instead of generic coronary artery anomalies. Authors didn’t investigate the prevalence of all coronary artery anomalies.

Abstract - Methods: It would be better to mention the classification scheme employed.

Abstract - Results: The last sentence is not clear.

Methods:

- please, provide informed consent of patients.
- 30 mg of i.v. beta-blocker seems a disproportionate dose.
- some of the reconstruction windows employed aren’t usual for CTCA. End-diastolic (70%-75%) and end-systolic (40%-45%) phases are usually employed.
- did you use a sharper filter to assess calcified vessels?

Results

- Did you find any split or absent left main coronary artery?
- Please, specify the anomalous course of coronary arteries.
- Tables 1 (Patient characteristics) and 2 (Results for detected coronary artery anomalies) are not shown in the manuscript.

Discussion:

- Authors should compare their results with existing 64-slice CTCA papers.

Limitations:
The radiation dose concerns may be added in this section.

Conclusions:
The conclusions can be more focused on the results of the study without further introduction.

Figures:
- Figure 1: I would highlight the acute angle of vessel origin (a possible ischemia mechanism).
- Please, insert a figure to display subgroup 3 (RCA origin from the left sinus of Valsalva with a separate ostium).
- Figure 3: Please provide a MPR image of the RCA. The cross-sectional MPR image of LAD could be less zoomed to better show the intra-myocardial course.
- Figure 4 – The anomalous CX could be better depicted with a MPR image. Even another VR view could better display the feature. The legend incorrectly refers to Figure 2.

Minor Essential Revisions
- Please, the full stop should follow the reference mention in the text (i.e. : [1-3].).
- The sub-paragraph titles of “Results” section may be removed.
- The manuscript requires some minor language/gramatical corrections throughout.
- Some of the 64-slice CT-CA papers of the existing literature may be provided in the “References”.
- The web-reference 16 should be specified because it is not available on the web as it is.
- There are some missing labels on Figures (MPR cross-sectional images in the Figure 1).

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

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