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Response to Reviewer Comments

Reviewer 1

This is an interesting manuscript about the association of a positive test for inferior wall ischemia on myocardial perfusion imaging (MPI) with non-dominant right coronary artery (RCA) anatomy. The authors have demonstrated that MPI in patients with non-dominant RCA has significantly high false positive results for inferior wall ischemia. This manuscript is nicely structured and well written. However, there are several problems about this manuscript. I'll show the questionable points those the authors may need to revise. Please consider the following comments. (Comments) 1. Page 9, Results, "The PPV was analyzed and compared between the two study groups." I think the authors should describe sensitivity, specificity, negative predictive value (NPV) in addition to PPV. Please consider. 2. Page 7, Results, "There was no significant difference in mean hospital stay, re-hospitalization, and in-hospital mortality between the two groups." The authors should describe more detailed data in the text or table. 3. References The publishing year is not described, except reference [11].

1. **One of the limitations of our manuscript was that this was a retrospective analysis. Only patients who had a positive test for ischemia on single photon emission computed tomography (SPECT), myocardial perfusion imaging (MPI)**

underwent coronary angiography. Hence analysis of negative predictive value, sensitivity and specificity was not possible.

2. Table 2, has been added in the results section, describing in detail comparison of mean hospital stay, re-hospitalization and in-hospital mortality between the two study groups.

3. The publishing year has been included for all the references.

Reviewer 2

From the results of this study it is suggested, that there is a high risk of false positive SPECT results with respect to the inferior myocardial wall in patients with a non dominant RCA. This does not seem to be really new. Therefore the authors should provide a more detailled information on their literature search, before they claim that this phenomenon is unknown so far. Moreover it is not clear in which cases they used SPECT MPI. A detailled flow chart would increase transperancy. The indication for SPECT MPI meanwhile is quite limited and far from being a routine assessement in many countries. Therefore some more statistics should be provided on the actual role of SPECT MPI in clinical routine at least in the USA and in addition in some other industrial countries as comparison. Finally I would advise to include a copy of 1-2 SPECT pictures showing an normal and a false positive SPECT assessment

1. In the introduction, the effect of coronary anatomy on diagnostic accuracy of stress cardiac magnetic resonance imaging (CMR) is mentioned. The paper by Pilz G et al has been cited. The authors did not find any published study to look at the relationship of coronary artery anatomy to the diagnostic accuracy of single photon emission computed tomography (SPECT), myocardial perfusion imaging (MPI).

2. In methods section, it is explained that SPECT MPI was used on all the cases in this study. Additional information has been included in the methods section, to explain that the patients included in this study presented to emergency department with complaints of chest pain and no prior diagnosis of coronary artery disease.

3. **In the first two paragraphs of the "discussion" section, relevant statistics from United States have been reported to highlight the need for correct utilization of non-invasive testing in stable patients with suspected coronary artery disease (CAD). Further selected studies reporting use of SPECT MPI both in United States and in developing countries have been cited.**
4. **Figure 1A and 1B has been added as a representative images of SPECT MPI. Figure 1A shows reversible defect consistent with inferior wall ischemia. Figure 1B shows a normal SPECT MPI.**

Reviewer 3

Interesting article about the usefulness of SPECT for perfusion imaging of the inferior wall.
No response required.

Reviewer 4

The manuscript "Interpretation Of Inferior Wall Ischemia On Single Photon Emission Computed Tomography Myocardial Perfusion Imaging In Non-Dominant Right Coronary Artery Anatomy. A Hypothesis Generating Study" by Malik et al. is aimed at clarifying one of important pitfalls of SPECT in diagnosis of ischemic coronary patients. This work has been completed on an interesting topic with practical significance and the authors believe is the first report in the field of nuclear imaging. The difference between predictive values of two groups of studied patients is so much that requires special attention in daily practice. However there are drawbacks that should be addressed in this study: The role of gender differences has not been explained. The authors are recommended to report the results separately according to sex. As noted in Ref 8 the size of coronary artery matters and it is dependent to dominancy and probably to gender. Clarify the importance of Pic 1. How so many people are diagnosed with inferior ischemia? English writing needs revision. There are sentences that should be rewritten to be clearer. In title page add affiliation 3. In abstract revise Method section as follows: Patients who showed a reversible inferior wall defect on SPECT MPI and had coronary angiography during hospitalization were included. Patients were divided into group 1 and group 2. Group 1 included patients with non-dominant RCA, and group 2, patients with dominant RCA. True positive and

false positives were identified on the basis of hemodynamically significant CAD on coronary angiography, in the same territory as identified on SPECT MPI. Move first paragraph of discussion to Method section. Most of references are not complete. Add year of publication

1. **In the "discussion" section, a paragraph citing relevant papers has been added to disciss the effect of gender on coronary artery dominance. Comparison of gender differences between the study groups is included Table 1 and discussed in the "discussion" section.**

2. **English correction services were used to proof read the manuscript and correct errors.**

3. **Methods section in the abstract has been revised.**

4. **Affiliation "3" in the title page has been added**