Reviewer's report

Title: The predictive value of the renal resistive index for contrast-induced nephropathy in patients with acute coronary syndrome

Version: 0 Date: 12 Dec 2018

Reviewer: Gianni Dall'Ara

Reviewer's report:

Thank you for the possibility to review the paper entitled "The predictive value of the renal resistive index for contrast-induced nephropathy in patients with acute coronary syndrome". It is a prospective analysis of consecutive patients with an acute coronary syndrome undergoing percutaneous coronary intervention (PCI). The aim was to correlate the renal resistive index (RRI), collected before PCI and at 1 and 24 hours, with contrast induced nephropathy (CIN). 146 patients were enrolled. The authors concluded that patients suffering CIN had higher post-procedural RRI; baseline RRI value correlated with outcome and ROC analysis showed that the value of 0.69 had the higher sensitivity and specificity for CIN.

Issues to clarify:

- how many patients were excluded due to the pre-specified study criteria? Add to the results (eventually with a flow-chart figure).

- baseline chronic kidney disease was not an exclusion criteria, however the mean eGFR shows a population with almost normal/mildly reduced renal function. The authors should add in Table 1 the number(percentages) of patients with eGFR<60 and eGFR<30.

- the study enrolled a significant proportion of patients with STEMI (40-50%). Since coronary angiography and PCI should be performed in an emergency, how long was the calculated/estimated protocol-related PCI delay in these cases?

- The authors should mention the study approval of the local Ethic Committee.

- The population enrolled in the study can be considered with "high-normal" RRI values, condition which seems in line with patients' age, less with the good eGFR values. The author should discuss: a) whether it can be due to the acute setting of a coronary syndrome (hypotension, cardiac arrest, previous use of acetylsalicylic acid or other drugs) or preexisting conditions; b) whether this condition might have had an influence on the outcome and response to contrast dye injection.
- Page 7, line 114: correct "NST-ACS" -> "NSTE-ACS"

- Page 9, lines 171-172: "Patients with CIN were characterized by higher hydration volumes, higher hyperurycemia, and higher eGFR." have to be corrected in "lower eGFR" as seen in Table 1.

- Page 13, line 241 "which may caused" correct in "which may cause"

- Page 13, lines 244-246. Rephrase the sentence "Third, we did…" because it is not clear.

- Figure 1 may be omitted.

**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

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