Reviewer's report

Title: B-type natriuretic peptide and high sensitive C-reactive protein predict 2-year All Cause Mortality in Chest Pain Patients: A Prospective Observational Study from Salta, Argentina

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Reviewer: Carlos Henrique Miranda

Reviewer's report:

Leon de La Fuente at al. showed through an observational study that the B-type natriuretic peptide and high sensitive C-reactive protein may improve risk stratification in chest pain patients in the emergency department, mainly in TnT positive patients.

Here are my suggestions:

1) The introduction should be brief. I think that the first paragraph should be removed, because you don’t need to explain the advantages and disadvantages of an observational study in the introduction, you could use this paragraph in the discussion.

2) In the introduction the term “occlusion” should be replaced for “thrombus formation” in a coronary artery, because many times the thrombus formation happens without the complete occlusion. The term “pre-occlusive” should be replaced for “early phases before the thrombus formation”.

3) I think that much information about the BNP and hsCRP should be moved from the introduction for the discussion.

4) You should explain the abbreviation MI (myocardial infarction).

5) In the page 7, you should explain the abbreviation CV (coefficient of variation) in the fourth line; because it is the first time that it is mentioned in the text.

6) There are a large number of tables in the results. Some suggestions: In table 1 and 2 you could use as characteristics the term “diabetes”, without separate in insulin dependent diabetes mellitus and non-insulin dependent diabetes, this last classification should be avoided. In the characteristic the term “CHF” should include all the patients in Killip-Kimball Class 2, 3 and 4, you don’t need separate in each class.

I suggest to remove the table 3, 4 and 5 because are secondary findings.

7) You shouldn’t put the result of the statistic test, like the log Rank test, in the title of the figures; it should be inserted in the charts.

8) In the Figure 3 the title should explain better the chart, for example, Receiver operated characteristic curve for BNP, hsCRP and troponin for evaluation of
all-cause mortality in total patient population. In this figure, I think that the results for troponin must be included, because you can compare these new biomarkers with the troponin.

9) I think the figures 1 and 2 could be done together, and the same with the figures 4 and 5.

10) In the discussion, the authors repeated all the results in the first three paragraphs; you should summarize the main results in only one paragraph.

11) The authors should discuss yours results comparing with the results of other studies, you can use the information removed from the introduction.

12) I suggest including a paragraph about the troponin, because it is an important prognostic factor, and the BNP and hsCRP shouldn’t substitute the dosage of this first biomarker.

13) The authors should rewrite the paragraph about “Our study suggest that the BNP and CRP are excellent risk stratification” because these new biomarkers give additional prognostic information in patients with positive troponin, but it wasn’t observed in patients with negative troponin. All patients with positive troponin are considered as high risk, independent of the BNP and hsCRP. In the group with negative troponin these new biomarkers weren’t useful in the risk stratification, because of this; the dosages of these new biomarkers have limited clinical usefulness. These limitations must be recognized by the authors in the discussion.

14) The conclusion should be rewrite focusing in the findings of the study, for example, BNP and hsCRP can improve the risk stratification in troponin positive patients, but these new biomarker failed in the risk stratification in troponin negative patients.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests.