Reviewer's report

Title: B-Type Natriuretic Peptide versus Amino Terminal Pro-B Type Natriuretic Peptide: Choosing the optimal heart failure marker in patients with impaired kidney function.

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Reviewer: Islem OUANES

Reviewer's report:

Jafri et al. undertake an observational study to examine the influence of kidney dysfunction on BNP and NT proBNP and determine appropriate cutoffs for heart failure. The authors suggest that BNP and NT-proBNP were elevated in kidney dysfunction. Both can be useful in diagnosing heart failure and NT-proBNP appears to predict heart failure better than BNP.

The paper is reasonably well written. Most of the analyses are appropriate, though the paper could be enhanced with a few additional changes.

Minor Essential Revisions

1- It was mentioned in the abstract that the “effect of impaired kidney function on BNP and NT-proBNP is not clear”. I think that it is now reported from many trials that kidney impairment clearly increase these biomarker levels but optimal cut-offs are not well known with various patient's populations.

2- In materials and methods chapter: Patients were classified as heart failure patients from the interview data using New York Heart Association (NYHA) and then reconfirmed from past echocardiography report (ejection fraction <40%) or heart failure documented on the file by a cardiologist. Add percentage of patients with heart failure with each diagnosis tool and agreement between these two diagnosis methods (clinical and echocardiographic) using for example the Kappa statistic test.

3- Give 95% CIs for AUC and calculate positive and negative likelihood ratios of optimal cut-offs of BNP and NT proBNP to better describe and compare performance of these biomarkers.

4- Add post hoc test (Bonferroni) used for multiple comparisons in the chapter statistics.

5- I propose to present the table I in the manuscript with providing p value of each parameter.

6- Read and reference: N-terminal proB-type natriuretic peptide levels aid the diagnosis of left ventricular dysfunction in patients with severe acute exacerbations of chronic obstructive pulmonary disease and renal dysfunction. Ouanes I, Jalloul F, Ayed S, Dachraoui F, Ouanes-Besbes L, Fekih Hassen M,

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

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