Reviewer’s report

Title: The role of urine neutrophil gelatinase-associated lipocalin (NGAL) in patients with ST-elevation myocardial infarction

Reviewer: Tinne Tranberg

Reviewers report:

This prospective observational study evaluates the association of urine neutrophil gelatinase-associated lipocalin (NGAL) and the markers of in-hospital heart failure in patients with STEMI. However, the sample size is very small and insufficient described. The quality of the written English is below standard; I highly recommend an English editing revision and revision of the below mentioned problems before considering publication.

Major Compulsory Revisions:

The sample size is very small (n=61). The information about the participating patients is limited and the information about the non-participating patients has not been reported.

Why are only 61 STEMI patients included during April 2010 to July 2011? Selection bias? I would say this is quite few. What are the inclusion and exclusion criteria? Are there differences between those included in the study and those who were excluded or not participating (e.g. chronic heart failure chronic lung disease, thyroid dysfunction)? How many of the participating patients had chronic heart failure (HF) prior to STEMI or enrolment?

The authors have reported their results as mean ±SD in the text and in the tables. However, it is doubtful whether the values of NGAL, Troponin I, NT-proBNP, creatinine etc. are normally distributed due to the small sample size and the subdivision into small groups; n=41 vs. n=20 and n=52 vs. n=9. In case of non-normally distributed data the Student’s t-test is not the correct choice of a statistical test.

In general the legends of the tables should include a statement of how the results are presented (mean ±SD etc.).

Table 3. Killip >2 (%): I am not sure I understand the percentage 28 and 78 = 106%? And in the Result section the authors state that 36% of the STEMI patients were in Killip classes # II-IV.

A limitation section is lacking in the manuscript.
The quality of the written English is below standard. The text would benefit from an English Editing revision, as there are several grammatical errors, which is an impediment to understanding.

Minor Essential Revisions:
The title does not clearly express what is being investigated (markers of heart failure).

In the methods section, the authors have decided to use the cut-off urine NGAL level of 50 ng/ml. I miss a statement why the authors use this particular cut-off value?

In the result section it would be appropriate to report the number of patients in each Killip class I-IV.

Discretionary Revisions:
In the Background section, I am not sure it is correct to say that the consequence of STEMI is often systolic/diastolic dysfunction with decreased cardiac output. The diagnosis HF can be difficult and there are quite a large number of patients who are misdiagnosed due to other problems (e.g. chronic obstructive pulmonary disease, lung embolus). I may be more appropriate to write, “could” instead of “often”

Line 62: hypertenson
Table 3: Kilip

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

Quality of written English: Not suitable for publication unless extensively edited

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.