Reviewer’s report

Title: Glucose levels as a prognostic marker in patients with ST-segment elevation myocardial infarction: a case-control study

Version: 0 Date: 13 Nov 2015

Reviewer: Emanuela Ricciotti

Reviewer's report:

In the manuscript entitled "Glucose levels as a prognostic marker in patients with ST-segment elevation in myocardial infarction: a case-control study", the authors investigate the role of hyper and hypoglycemia in in-hospital and 1 year prognoses in patients with ST-segment elevation MI. The authors included 529 patients in their case-control study. They found that hyperglycemia (both in patient with and without diabetes) affects the short and long-term prognosis. In patients without diabetes the relationship between hyperglycemia and in-hospital prognosis show a linear relationship, while in diabetic patients it shows a U-shape relationship.

The authors suggested that blood glucose levels in patients with MI may represent a predictor of adverse outcomes.

Although the study is interesting and generally well designed, some finding (the U shape relationship between hyperglycemia in-hospital prognosis in diabetic patients) is in disagreement with the current literature.

The study presents some limitations that should be addressed and that could have influenced the results of the study.

-Some important clinical characteristics of Patients are missing:

  Did a patient have a previous heart failure?
  Did a patient have a previous myocardial infarction?
  Was a patient a smoker?
Important confounding factors were not taking in account the data analysis:

Due the circadian variation of blood glucose, did the author have a record of the time when the blood glucose was measured at admission to hospital?

What was the time since the last meal?

Was a patient taking medications that affect glucose metabolism?

Were the diabetic patients taking anti-diabetic medication?

Minor:

Table 1 and 2 are difficult to read. It would help to change the page orientation.

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.

No

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 recommend additional statistical review
Quality of written English

Please indicate the quality of language in the manuscript:

Acceptable

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