Reviewer's report

Title: Determining the joint effect of obesity and diabetes on functional disability at 3-months and on all-cause mortality at 1-year following an ischemic stroke

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Reviewer: Fioravante Capone

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In this paper, the authors have evaluated the joint effect of obesity and diabetes on post-ischemic stroke outcomes (functional disability at 3-months and all-cause mortality at 1-year). To this purpose, they performed a post-hoc analysis on the data from the Interventional Management of Stroke (IMS) III clinical trial. They found that, following an ischemic stroke, obese subjects with diabetes and non-obese subjects without diabetes had similar odds of functional disability at 3-months and a similar hazard for all-cause mortality at 1-year. Accordingly, they concluded that there is not sufficient evidence to determine a joint effect between obesity and diabetes on post-ischemic stroke outcomes.

The topic is interesting and the paper is well written. The methods are adequate and well described. The claims are fully supported by the experimental data and appropriately discussed in the context of previous literature.

In my opinion, the study has two main limitations that should be more highlighted in the text because they could reduce the generalizability of the conclusions:

1) The study chosen to perform the post hoc analysis (IMS III clinical trial) included only patients with NIHSS score > 8. This kind of selection could result in a selection bias, as the population could not be representative of real life post-stroke patients.

2) The inclusion criteria for the condition "Obesity" was based exclusively on a retrospective analysis of a "yes or no" questionnaire. This kind of selection run the risk of being poor objective and to create dishomogeneity in the model, as it could include patients only mildly overweight. A more objective and clear selection criterion (BMI) would have lessened this kind
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

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