Reviewer’s report

**Title**: Severe hypoglycemia symptoms, antecedent behaviors, immediate consequences and association with glycemia medication usage: secondary analysis of the ACCORD Clinical Trial data

**Version**: 2 **Date**: 21 October 2011

**Reviewer**: Ulrik Pedersen-Bjergaard

**Reviewer’s report**:

The paper is a post-hoc description of circumstances around first episodes of severe hypoglycemia from the ACCORD trial. The data are important in order to clarify a potential role of severe hypoglycemia in promoting adverse outcomes in this trial.

Points needing discretionary revision:

1) Did the authors use a validated method for classification of hypoglycemic symptoms as being autonomic or neuroglycopenic - e.g. The Edinburgh method?

2) The fraction of episodes with possible contribution from alcohol is quite low. How was alcohol involvement assessed?

3) I suppose that co-medications were recorded. Were there any influence of use of psychoactive drugs? By classes of antihypertensives or by women’s use of P-pills?

4) Use of TZDs was associated with severe hypoglycemia in both treatment groups with HRs comparable to those of the insulins. This is very intriguing and deserves further attention in the discussion, particularly as the opposite was observed for biguanides. Confounders or potential mechanistic explanations?

**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.

**Declaration of competing interests**: I declare that I have no competing interests