Reviewer's report

Title: Relationships between obesity, glycemic control, and cardiovascular risk factors: a pooled analysis of cross-sectional data from Spanish patients with type 2 diabetes in the preinsulin stage

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Reviewer: Christian Delles

Reviewer's report:

The authors provide an interesting manuscript on the relationship between CV risk factors and BMI and HbA1c strata in insulin-naive patients with T2D. Their data are pooled from five independent studies that were conducted in Spain. Even if the individual studies had different inclusion criteria and objectives the common denominators (patients not on insulin, studies conducted within one country) compensate for some of the weaknesses.

The main limitation of this paper is its cross-sectional nature. However, this limitation has been adequately discussed by the authors. I have only a few comments.

Major Compulsory Revisions

I would like the authors to provide summaries of the clinical and demographic characteristics of each of the five studies in a supplementary table. Currently only the pooled analysis is presented in Table 1 but it will help the reader (without the need to go back to the original literature) to see individual study data. Basically, the data mentioned in table 1 should be given for each individual study.

I was also wondering about data on antihypertensive and lipid lowering therapy and if such treatment has been taken into account when the data were analysed. Where blood pressure and lipids are analysed as quantitative traits the values should be adjusted for treatment effects.

Minor Essential Revisions

I find the focus on macrovascular complications a bit artificial. I fully appreciate that most of the traditional risk factors are associated with macrovascular events but all the study can provide is a description of risk factors across BMI and HbA1c strata. Whether or not this really translates into different event rates remains unclear and cannot be answered by this study. I suggest toning down some of the introduction and also introduce the macrovascular event concept again in the discussion and discuss it briefly but critically. The reason I am so keen on a critical discussion is that microvascular complications of diabetes such as diabetic nephropathy are at least as important as macrovascular complications, and they may very well be driven by factors other than traditional
risk factors.

I also suggest adding the very recently published paper by Jais et al. (Cell, Volume 158, Issue 1, p25–40) to the discussion - it provides nice mechanistic data why higher BMI is not always bad.

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

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

No conflict to be reported.