Reviewer's report

Title: Insulin modulates cytokine release and selectin expression in the early phase of allergic airway inflammation in diabetic rats

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Reviewer: Dedmer Schaaafsma

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In this manuscript, Dr. Martins and colleagues studied the effects of a single dose of insulin on cytokine release (IL1#, TNF# and CINC-), selectin expression (E-, and P-), and inflammatory cell infiltration in the airways and lung parenchyma, both in OA-sensitized and challenged non-diabetic and diabetic rats. I have some serious concerns with respect to the experimental setup and data interpretation that need to be addressed.

Major concerns:

1. To adequately interpret the data, the authors should determine the effects of insulin by itself. Thus, they should include 2 more groups of animals: 1. Non-diabetic + sensitized (not challenged) + insulin 2. Diabetic + sensitized (not challenged) + insulin. This will provide some important insight on the effects of insulin by itself, and will determine whether insulin acts synergistic or additive with OA challenge.

2. With regards to Figure 2, it is very hard to believe that protein translation occurs within 4 hours after insulin administration. Protein translation is usually a process that takes up to at least 24 h after stimulation. The authors should include some representative images. In addition, the authors should look at selectin localization, i.e. granular versus cell surface (which is a direct indication of endothelial cell activation and a marker of inflammation).

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

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