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: Iolanda Tibério

Reviewer's report:

The authors evaluated the modulation of insulin on the early phase of allergic airway inflammation in diabetic rats. This is very relevant question since the mechanisms involved in the impaired inflammatory response induced by hyperglycemia and/or altered insulin effects were still a matter of discussion.

1. Major Compulsory Revisions

The authors evaluated the altered cell migration in this animal model after 6 and not 24 hours of allergen challenge because the main purpose of the study was to evaluate the early phase of allergic response.

It will be relevant to explain the importance and possible limitations related to the choice of this experimental approach, particularly focusing on the effects on the neutrophilic and eosinophilic recruitment obtained in this model allergic pulmonary inflammation.

In the discussion the authors need to clarify two important points:

1. The possible mechanisms that explain the results of E- and P-selectin expression.

2. Considering that CINC-1 is induced by IL-1 beta and TNF-alfa, which are the hypothesis to explain that their levels were unaffected in diabetic and sensitized animals. These explanations should be included at the discussion.

2. Minor Essential Revisions

In the methodology, it will be adequate to include references to the experimental protocols used.

Considering the morphometric analysis using the Software Image-Pro Plus, it is important to describe with more details how it was performed.

There are some parts of the discussion that need references.

The authors need to include a paragraph in the discussion with the limitations of the present study.

A photomicrography of the lung slices submitted to the immunohystochemistry evaluation could be included.
3.1. Discretionary Revisions:

Although the experimental model of diabetes induction with alloxan was well established, a short comment about it with some references and possible limitations related to the use of this protocol could be inserted in the background description.

**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' below