

Peer Review

Review of: "A Randomized, Double-Blind, Placebo-Controlled Crossover Pilot Study of the Effect of Metformin on Airway Glucose in COPD: The Metformin and Airway Glucose in COPD (MAGIC) Trial"

Adrián Rodríguez-Carlos¹

1. UIBMZ, Mexican Social Security Institute (Instituto Mexicano Del Seguro Social), Mexico

The article provides an approach on the use of metformin for the treatment of patients with COPD. Although the premise is based on a solid foundation, I believe the introduction regarding the use of metformin should be better supported, as its effects extend beyond just glucose metabolism. I consider the results presented to be somewhat preliminary, as they are based on a very small sample size, and not all cases complete the treatment. As a result, the final response seems to be unsustainable, and this could be a random outcome. I believe the article should reinforce certain details before publication.

Introduction:

1. You should include the dysfunctions associated with COPD.
2. check reference 3; there is a lack of evidence demonstrating the glucose levels in patients with COPD. What are the plasma glucose levels? Is this increase local? To what extent does it increase? The concentrations should be clearly defined and described in more detail, as this is the basis for proposing the treatment.
3. It should be emphasized that, in addition to being a hypoglycemic agent, metformin also has immunomodulatory functions and direct antimicrobial properties. I believe it is important to highlight these well-documented functions in the introduction.

4. "This suggests that levels of airway glucose affect microorganism growth and survival." It is important to clarify whether it is the glucose itself that promotes bacterial growth, or if this has an implication in the host's immune response.

Methodology

1. Quality of life (QoL): How is this parameter determined? It would be helpful to provide a clearer explanation of how quality of life is assessed or measured in the context of this study.
2. Glucose was measured. It would be important to specify the units used to measure glucose levels.

Results

1. The first paragraph does not align with Figure 1. The description should be adjusted to match the data and information presented in the figure.
2. A healthy control group should be added to ensure that the patients indeed have elevated glucose levels at baseline.
3. It is important to highlight that, when evaluating glucose levels, although no significant differences were observed, it is clear that the placebo group maintains lower glucose concentrations. Therefore, increasing the sample size is important to obtain more robust results.

Discussion

1. It is important to discuss why the placebo group shows lower glucose concentrations, even though they did not receive the active treatment
2. it is important to emphasize throughout the discussion that no significant changes were found in the patients who completed the treatment. It should be kept in mind that the group size is small, which limits the generalizability of the results.

Declarations

Potential competing interests: No potential competing interests to declare.