Reviewer's report

Title: Low-dose endotoxin inhalation in healthy volunteers - a challenge model for early clinical drug development

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Reviewer: Markus A. Rose

Reviewer's report:

The manuscript "Low dose endotoxin inhalation in healthy volunteers- a challenge model for early clinical drug development" by Janssen and coworkers reports a well-designed proof-of concept model for respiratory research.

However, there are some weaknesses that should be eliminated before the article can be further processed.

To facilitate reading, the manuscript would profit from editing with focus on grammar and punctuation, i.e., many commas are missing, and often semi-colons should be used instead of commas.

Minor Essential Revisions

p values should be consistently given as exact numbers (e.g., p=0.0045), or semi-quantitative (e.g., p<0.05), but not as a hodge-podge.

Numbers below 10 should be written out.

Abstract:

The correct number for "Twenty Thousand" is 20,000 - this must be corrected throughout the manuscript. Please be consistent - either E.U., or EU.

"Separated by at least 4 weeks" sounds odd - better "with at least four weeks in between".

Background:

"Clinical Center" should be spelled consistently in American or British English (it's US anyway), and not as "Clinical Centre" (later in the manuscript).

Methods:

I like your sample size calculation given later for future projects - there should also be considerations as to power calculations / sample size for the given study.

Study Design: where is the cross-over design? This term usually means a controlled trial with different interventions which are performed in the different subgroups of the study, exchanged with each other in the course of the study (e.g., inhalative steroids versus placebo).

page 6 first paragraph: you don't need to repeat that the follow-up was covered by the ethical committee - this should go without saying.
sputum analysis: here, you write that two experienced observers did the count. In the discussion section, their results are cadditionally ompared with a cytologist. This information is contradictory - please clarify.

statistical analysis: SEM usually stands for "standard error of means". interquartile ranges should be specified (e.g., 25-75), and data should be presented accordingly. Second sentence: "data were log-transformed". Last sentence: add Statistica "software". The important information that you used the Bland Altman Method to investigate the reproducibility is worth mentioning here.

Results
page 11 second second paragraph: "neutrophils". Third paragraph: since this is the results section, please give numbers for "good correlation"
page 12 Comparison between baseline and follow-up: units are missing

Discussion
page 13 last but one paragraph: better "the affected subjects"
page 14: "there are conflicting results with respect to "...

I would suggest to shorten the introduction and discussion by 30%.

Literature:

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

Quality of written English: Needs some language corrections before being published

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'