



ESPS PEER-REVIEW REPORT

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Title: Effects of ω-3 Fatty Acids on Toll-Like Receptor 4 and Nuclear Factor-κB p56 of lungs in Rats with Severe Acute Pancreatitis

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Table with 4 columns: CLASSIFICATION, LANGUAGE EVALUATION, SCIENTIFIC MISCONDUCT, CONCLUSION. It contains checkboxes for various evaluation criteria like 'Grade A: Excellent', 'Priority publishing', 'Google Search', etc.

COMMENTS TO AUTHORS

This is a well-intentioned basic study that has evaluated the effect of ω-3FA on expression of TLR4 and NF-κBp56 of lungs with SAP and the levels of cytokines in rat. But I find a number of problems that the authors need to address.

- 1. Having induced AP in rats, I am surprised that the authors confined their evaluation to the effects of ω-3FA on the lungs only and not on the pancreas and other end organs also.
2. The study was on "severe "AP. How did the authors ensure that that all the study animals had severe AP?
3. The material and methods section needs thorough revision; it is lengthy but a specific details are left vague (a few detailed below) and not a single reference is provided for the methods used.
4. How long after the induction of AP was the drug intervention done?
5. How was the lung tissue processed? Were all analyses done on formalin fixed

smears? All samples were tested in duplicate and averaged. How was ELISA done on solid tissue for TNF- $\alpha$  and IL-6

6. What scale was used for grading the histopathological changes in the lung? Was it based on a subjective impression? What is the validity of this method? Any reference?

7. Lung changes may be patchy in this situation. What was done to take care of this?

8. Was the person scoring the histology and IHC blinded to the group the animals belonged to?

9. Results: "TNF- $\alpha$  and IL-6 levels of lungs in the SAP- $\omega$ -3FA group could be seen as higher than that in the SAP- soybean oil group at each time point ( $P < 0.05$ )" The corresponding figures in table 2 shows the results to be the other way round.

10. Different terms are used in the different sections of the report to refer to the same histological change. This is confusing. Uniform terminology will help.

11. Table 2 can be simplified to read better by placing the most important results compared side by side. It is likely to read better if the columns and rows are interchanged. Column 3 is redundant. The foot notes on the groups compared is especially confusing.

12. Table 3 can be similarly modified. The foot note suggests that a group has been compared to itself to get a statically significant difference!!! E. g. ("versus SAP- $\omega$ -3FA 12h group, g  $P < 0.05$ , h  $P < 0.05$ , i  $P < 0.05$ , j  $P < 0.05$ ; versus SAP- $\omega$ -3FA 24h group, gg  $P < 0.05$ , hh $P < 0.05$ , ii  $P < 0.05$ , jj $P < 0.05$ ."

13. "Several studies have confirmed that the expression and activation of TLR4 and NF- $\kappa$ Bp56 were upregulated, and a large amount of inflammatory cytokines were detected in the SAP rat model induced through various ways [19]." The authors mention several studies, but only 1 quoted.

14. The paper needs attention to language and punctuations. 1 e. g.: "The injuries would further induce SIRS or even MODS[7,8] .it was found that TLR4 plays"