

**Peer review file**

**Article information:** <http://dx.doi.org/10.21037/tp-20-314>

**Reviewer A**

Comment 1: Overall, the manuscript requires significant English language editing and proofreading to make it readable. Eg. Don't put capitals in the middle of a sentence without good reason. Eg 'In conclusion, Both FeNO and FnNO can reflect the levels of eosinophilic inflammation.'

Reply 1: We have checked the language and edited wherever required.

Comment 2: Although I understand the gist of the introduction and discussion, the results need to be clarified (shorter, cleaner sentences may enhance readability) eg 'Besides, each of FeNO or FnNO values were have significant correlation before and after the treatment ( $r=0.612$ ,  $P<0.001$ ;  $r=0.601$ ,  $P<0.001$ ).' – significant correlation with what?

Reply 2: We tested the values of FeNO and FnNO for patients before and after treatment. Compared the changed and correlation of the levels before and after treatment. In this way, understand whether the levels of FeNO or FnNO will change due to treatment.

Changes in the text: see Page 12, line 8 to 11.

Comment 3: Please specify the treatment regime. Note that the treatment may affect the levels of exhaled nasal nitric oxide

Reply 3: We used loratadine to treat allergic rhinitis in each participant, and the overall course of treatment lasts for three weeks.

Change in the text: see Page 10, line 1 to 2.

Comment 4: Was there a significant change (from baseline values) in the nasal oxide levels after treatment? I noted that the values increased, but was this significant? Please discuss the other factors which may affect the production of exhaled/nasal nitric oxide (eg disease chronicity), as well as factors which might confound its measurement.

Reply 4: In our study, we found that the levels of nitric oxide were slight increase. But compared to other references, most of the results present FeNO or FeNO were decrease after treatment. Although the variety were not obvious, but we thought that there have other factors

may influence the levels of nitric oxide concentration. The used of bronchodilator, smoking or allergic rhinitis with asthma can be the influence factors, measured time and posture may cause values changed. We have excluded the above influence factors, ensure all participations have measured in the same environment. We have added a description of this part in the manuscript.

Change in the text: see Page 9, line 11 to 15.

Comment 5: Since the pre-treatment FeNO levels were correlated with the eosinophil and IgE levels, was there any correlation between the post treatment FeNO levels and the eosinophil or IgE levels? I am still wondering if the increased NO values were a spurious finding, or reflective of the underlying pathophysiology which may not have been thoroughly discussed in the text.

Reply 5: According to this question, we do not detect the EOS and total IgE levels in our study. Thus, we could not specifically define whether there was correlation between FeNO and EOS or total IgE.

Comment 6: Conclusion: 'Measurement of NO concentration combine the production and airway remodeling may be a useful tool for assessing treatment effect' – it is difficult for you to make this claim since you did not observe any correlation between symptoms and NO levels. Moreover, the NO levels increased after treatment, which contrasts with the literature, which suggests that NO levels would be expected to decrease after treatment (please include the relevant references)

Reply 6: through the questionnaire survey, we know that the patient's symptoms have improved after treatment, so we speculate that their FeNO and FnNO levels will be reduced accordingly. However, our results are inconsistent, so we combined relevant literature to consider whether air remodeling is one of the factors leading to this result. As for the conclusion, we have made some modify.

Change in the text: see Page 15, line 11 to 13.

## **Reviewer B**

Comment 1: The study design is a retrospective study without control. It is difficult to evaluate whether the data (especially FeNO, FnNO and the scoring) and the change in the

data before and after treatment are in normal range or not.

Reply 1: since there do not have control group in our study, all the values of FeNO, FnNO and questionnaire were evaluation and analysis based on the guidelines. Related literatures and reference values will be added to the manuscript.

Change in the text: see Page 11, line 2 to 4.

Comment 2: The authors should mention the factors which affect the level of FeNO or FnNO, such as nasal congestion, the treatment for the rhinitis (nasal steroids, antihistamine, LTRA), coexisting atopic dermatitis or obesity, or environmental factors (passive smoking and so on).

Reply 2: there have servals factors may influence the levels of FeNO or FnNO. For example, in different age or measurement time and posture, and so on. As for related diseases, upper and lower respiratory tract viral infections, the used of bronchodilator and smoking can be the influence factors. We have excluded the above influence factors, ensure all participations have measured in the same environment. We have added a description of this part in manuscript.

Change in the text: see Page 9, line 11 to 15.

Comment 3: Discussion is very short and there are no “limitations”.

Reply 3: we have added the limitations in this experiment at the end of the discussion.

Changes in the text: see Page 15, line 4 to 8.

Comment 4: It would be difficult to measure the value of FeNO and FnNO in 3-year-old children accurately but in this study, all the participants have completed the examination. Please describe the point how to measure them in the toddlers accurately.

Reply 4: All the participations have completed the FnNO test according to the guidelines recommended. As for the 3-year-old children, we test his FeNO value through moisture based on the operation guide.

Change in the text: see Page 9, line 6 to 7.

Comment 5: P.5, line 14. Are the children with allergic rhinitis who have ever received treatment (not surgery) should have been also excluded?

Reply 5: in our study, we measured the children who have been diagnosed as allergic rhinitis.

All participations have not received bronchodilators and other medications that affect exhaled nitric oxide levels for at least three months before receiving the test.

Change in the text: see Page 9, line 11 to 12.

Comment 6: P.5, line 18-19. The reference No.13 does not contain the questionnaire of rhinitis. Put the correct reference.

Reply 6: Based on this reference, we designed a questionnaire that meets our needs to assist us in assessing the degree of rhinitis symptoms in patients. On the one hand, it is closer to our experimental design, on the other hand, it also guarantees that the questionnaire has a certain degree of reliability.

Change in the text: see Page 8, line 9.

Comment 7: Table 1. Table like (shown in attachment file) would be more understandable. Please consider the proposal.

Reply 7: we have already optimization our table.

Changes in the text: Table 1.

Comment 8: Please clarify the ethics approval number of your research.

Reply 8: Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. All procedures performed in this study were in accordance with the Declaration of Helsinki and approved by the Ethics Committee of The First Affiliated Hospital of Guangzhou Medical University (Reference number: GYFYY-2016-73). Because of the retrospective nature of the research, the requirement for informed consent was waived.

Comment 9: English language editing would be required.

Reply: We have checked the language and edited wherever required.