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Monitoring COPD patients systemic and bronchial eosinophilic inflammation in a 2-year follow-up: few concerns

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Abstract

Monitoring COPD patients: systemic and bronchial eosinophilic inflammation in a 2-year follow-up" by Pignatti et al. provides valuable insights about changes in blood and sputum eosinophils in mild to moderate COPD patients and treatment outcomes. However, concerns arise regarding the accuracy of diagnosis of COPD in subjects with a significant bronchodilator response despite FEV1/FVC ≤ 70%. Although statistically significant differences in FEV1/FVC were observed, the clinical relevance needs scrutiny. Despite a clinically meaningful difference in FEV1 between ICS-treated and untreated patients, the lack of statistical significance raises questions. Addressing these concerns will strengthen the study's reliability and interpretation.

Dear Editor,

I am writing regarding the recent article titled " Monitoring COPD patients: systemic and bronchial eosinophilic inflammation in a 2-year follow-up" published in BMC Pulmonary Medicine, Article number: 247 (2024), authored by Pignatti et al.[1]. The prospective design of the study allows understanding the changes over time, providing data on disease progression and treatment outcomes. By examining both blood and sputum eosinophil levels, a comprehensive evaluation of eosinophilic inflammation in COPD is done. While the study presents valuable insights over a 2-year follow-up period, several points raise questions about the methodology and interpretation of results.

Firstly, the presence of a significant bronchodilator response in a subgroup of subjects, despite having FEV1/FVC ≤ 70%, raises questions about the accuracy of COPD diagnosis or the potential presence of asthma-COPD overlap syndrome (ACOS) [2]. This subgroup might exhibit different inflammatory profiles or treatment responses, which could confound the study outcomes[3].

Secondly, while statistically significant differences in FEV1/FVC were observed at different time points, the actual magnitude of change in median values appears small. While the statistical analysis might detect differences, assessing whether these differences are meaningful from a clinical perspective is essential.

Moreover, the absolute difference in FEV1 between ICS-treated and untreated patients (0.055, −0.65mL, respectively) appears substantial and clinically meaningful, no statistical significance was found in this analysis. This discrepancy raises questions about the factors influencing the observed FEV1 difference. Possible explanations include the relatively small sample size, inherent variability within groups, or confounding variables like adherence to treatment, concurrent medications, or lifestyle factors (e.g., smoking status), could have affected the results [4]. Therefore, despite the apparent clinical significance of the FEV1 difference, caution must be exercised in interpreting these findings.

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In conclusion, there is need for careful consideration of methodological limitations and interpretation of results. Addressing these issues will enhance the robustness and reliability of the study findings.

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Divya Balan (D.B) wrote the manuscript and Manu K Mohan (M.K.M) edited and supervised the manuscript.

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Declarations

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Not applicable.

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

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