

Update on asthma prevalence in severe COVID-19 patients

To the Editor,

We carefully read the recently published research letter "Is asthma protective of COVID-19?" by Carli et al¹ with great interest. Important topics for asthma patients during the coronavirus disease 2019 (COVID-19) pandemic were discussed, including that until recently there was limited evidence that patients with chronic respiratory disorders are at lower risk of being infected with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) or becoming severely ill.

Only taking into account previous reports from China and Italy, where asthma was underrepresented in COVID-19 patients, the authors acknowledge the heterogeneous condition that is asthma, suggesting that T2-immunity, interferon-mediated immune responses and increased number of eosinophils in the airways could have a protective effect against COVID-19 severity.¹

The epidemiology of COVID-19 is changing rapidly with new data. More recent reports from the United States of America and from several European countries, in particular the United Kingdom (UK), state a higher asthma prevalence in patients with COVID-19, suggesting that asthma is more common in COVID-19 patients than it was previously reported in Asia and in the first European surveys.² Data from the UK Biobank, a large prospective case-control study, found an asthma prevalence of 17.9% in 605 COVID-19 hospitalized patients, mostly of them adults, surpassing the prevalence of asthma in the general population.³

In the OpenSAFELY Collaborative Study (UK), a significant increased risk of severe COVID-19 disease and mortality rate was found in patients with asthma, particularly in patients with recent oral corticosteroids (OCS) use.⁴ These findings indicate an increased asthma severity and/or poor control, and in accordance with data from previous coronavirus outbreaks, that the use of systemic corticosteroids can be associated with a higher viral load.⁵

We agree with Carli et al¹ that further studies focused on asthma and its different phenotypes are needed to improve our understanding of the association between asthma and COVID-19 severity.⁶ Factors as co-viral infections, that were quite low in the first Chinese and Italian reports, or different exposures to allergens or irritants, as tobacco smoke, can justify some of the differences found in asthma prevalence between the available case series.

Based on current recommendations, it is crucial that patients with asthma do not stop their controller medication, which may lead to a higher risk of asthma exacerbations, emergency room visits, hospitalization and increased use of OCS.

In conclusion, according to the available data, patients with asthma must still be included in the high-risk COVID-19 groups and further research is warranted to improve our understanding of the relationship between asthma and COVID-19.

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CONFLICTS OF INTEREST

None declared.

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REFERENCES

1. Carli G, Cecchi L, Stebbing J, Parronchi P, Farsi A. Is asthma protective of COVID-19? *Allergy*. 2021;76:866–936. <https://doi.org/10.1111/all.14426>
2. Morais-Almeida M, Pité H, Aguiar R, Ansotegui I, Bousquet J. Asthma and the COVID-19 pandemic: literature review. *Int Arch Allergy Immunol*. 2020;9:1–9. <https://doi.org/10.1159/000509057>

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3. Khawaja AP, Warwick AN, Hysi PG, et al. Associations with COVID-19 hospitalisation amongst 406,793 adults: the UK Biobank prospective cohort study. *medRxiv*. 2020. <https://doi.org/10.1101/2020.05.06.20092957>
4. Williamson E, Walker AJ, Bhaskaran K, Bacon S, Bates C, Morton CE, The OpenSAFELY Collaborative. OpenSAFELY: factors associated with COVID-19-related hospital death in the linked electronic health records of 17 million adult NHS patients. *medRxiv*. 2020. <https://doi.org/10.1101/2020.05.06.20092999>
5. Lee N, Allen Chan KC, Hui DS, et al. Effects of early corticosteroid treatment on plasma SARS-associated Coronavirus RNA concentrations in adult patients. *J Clin Virol*. 2004;31(4):304-309.
6. Morais-Almeida M, Bousquet J. COVID-19 and asthma: to have or not to have T2 inflammation makes a difference? *Pulmonology*. 2020;S2531-0437(20):30104-30105.