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Correspondence and Replies

Asthma and COVID-19



To the Editor:

I read with interest the article by Green et al¹ that presents the conclusion of lower coronavirus disease 2019 (COVID-19) susceptibility in patients with preexisting asthma in a cross-sectional study of a nationwide health maintenance organization member population in Israel. The author's conclusion is based on a statistically significant odds ratio for asthma of about 0.7 (varying based on adjustment for confounders). I find the causal interpretation of population-based susceptibility from these findings to be inappropriate based on the measure of effect used and the study design. Using the crude numbers from their report (Table I), I calculate a prevalence difference for asthmatics (4.3%) versus nonasthmatics (6.2%) indicating that the COVID-19 burden in asthmatics is lower by 1.9 cases per 100 members tested (95% confidence interval [95% CI], 1.1-2.6).

On the scale of population health impact, this slight difference measured by the prevalence difference in a cross-sectional study does not translate to a broad conclusion or prediction of "lower COVID-19 susceptibility" for asthmatics. Adjustment for cross-sectional confounders in the report furthered weakened measures.

Lastly, reporting of "lower COVID-19 susceptibility" for patients with preexisting asthma needs further caution when considering existing controversy in which diagnosed and undiagnosed asthmatics are requesting medical exemption from wearing a mask during the pandemic.²

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TABLE I. Asthma and COVID 19 RT-PCR findings among 37,469 HMO members in Israel

	COVID-19 RT-PCR +	COVID-19 RT-PCR -
Asthma +	153	3,388
Asthma -	2,096	31,832

HMO, Health Maintenance Organization; RT-PCR, reverse transcription polymerase chain reaction.

The impact of inhaled corticosteroid on SARS-CoV2 infection



To the Editor:

We read with great interest the study by Calmes et al,¹ in which inhaled corticosteroid (ICS) treatment was not independently associated with the risk of intensive care unit admission or death among patients with severe acute respiratory syndrome coronavirus 2 (SARS-CoV2) infection. Therefore, the authors provided the recommendations that patients with obstructive airway disease should not decrease the dose of ICS during SARS-CoV2 infection.¹ However, we have several concerns about this conclusion.

First, ICS may beneficially or adversely affect the development and evolution of coronavirus disease 2019 (COVID-19) in many ways, such as acquiring SARS-CoV-2 infection, development and progression of COVID-19.² Although Calmes et al's study¹ showed that ICS did not affect outcome of COVID-19 patients,¹ the effect of ICS on the risk of acquiring SARS-CoV2 infection among patients with obstructive airway disease remained unclear. Thus, we still need evidence regarding whether ICS could increase the risk of COVID-19, as reported for other types of pneumonia.³⁻⁵ Moreover, another large observational study reported contradictory findings: chronic obstructive pulmonary disease (COPD) patients using ICSs were at increased risk of COVID-19-related death compared with those prescribed long-acting β -agonist plus long-acting muscarinic antagonist (LABA-LAMA) combinations (adjusted hazard ratio 1.39; 95% confidence interval 1.10-1.76), and asthma patients using high-dose ICS were at an increased risk of death (adjusted hazard ratio 1.55; 95% confidence interval 1.10-2.18).⁶ Although this finding may be caused by unmeasured confounding owing to disease severity and not to ICS itself, further research is warranted to clarify the role of ICS in acquiring SARS-CoV2 infection and the development and the progression of COVID-19 disease.

Second, the effect of ICS was evaluated in this study using the overall population (n = 596), including patients without obstruction, asthma, and COPD. However, we need a subgroup analysis of patients with asthma (n = 57) or COPD (n = 46) only to investigate the usefulness of ICS among COVID-19 patients with obstructive airway disease. In this way, we can better understand the impact of ICS on the clinical outcomes of COVID-19 patients with asthma or COPD and decide how to prescribe ICS appropriately for the patients with obstructive airway disease.

Third, previous studies^{4,5} have demonstrated that the risk of pneumonia associated with ICS varied by specific drug and increased with increasing dose. Therefore, more detailed analysis is needed to investigate the effects of different ICS drugs and dosages.

Although we have raised some concerns regarding the work of Calmes et al,¹ this study still provides useful information. However, because ICS is an important and commonly used medication for patients with asthma or COPD, more analyses and research are warranted.

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COVID-19 “infodemics” and asthmatic children: The return to school challenge



To the Editor:

We read with great interest the Rostrum article by Abrams et al,¹ highlighting the relevance of clear and consistent recommendations about the relationships between asthma, allergies, school attendance, and coronavirus disease 2019 (COVID-19) infection in childhood. An adequate communication of the known evidence to children with asthma and their families will help on the decision-making process of a central question: should I allow my child with asthma to go back to in-person learning in the school or not?

Although the personal and community impact of returning to school is still a controversial issue, there is growing evidence that asthma and its treatment are not risk factors for increased morbidity and mortality of COVID-19 in children² and, as the authors highlight, may even have a protective role.^{1,3} In spite of the recent progress, there are still open questions regarding severe acute respiratory syndrome coronavirus 2 infection in schoolchildren: Bayham and Fenichel⁴ found that school closures, in the absence of other child-care options, may reduce health care labor force, impacting COVID-19 mortality, while Brauner et al⁵ found that closing schools and universities had a large effect on mitigating and suppressing outbreaks of COVID-19. Supporting this effect of school reopening is the recent resurgence of cases in the United Kingdom being concentrated among schoolchildren (2-16 years old) as well as adults in the 35 to 49 age group, possibly comprising their caregivers.⁶

In a recently published review,³ we addressed the clinical and management challenges of pediatric asthma in the current pandemic, and the available evidence of a low actual risk of COVID-19 morbidity or mortality in these patients. The publication was complemented and immediately followed by a lay summary, in a press release to local and national media. What caught

our attention with the publication of this narrative review³ was the media interest in this specific medical topic, notably at both regional and national levels, including general and children’s health education websites. The summary of the article was rapidly disseminated in more than 50 media outlets, and it was widely quoted in the press, leading to a healthy discussion of a wrongly perceived risk.

At this moment in the pandemic, where anxiety generated by misinformation becomes more and more noticeable in families, appropriate information on sensitive topics, such as the return to school of children with asthma, the most common chronic respiratory illness in childhood, makes this issue a subject of interest to the lay public. An additional focus on individual risk stratification (eg, coexposure to relevant allergens and comorbidities) and controller medication adherence will be essential to allow children and their families to retain asthma control and to safely return to in-person school.³

As doctors and researchers, we cannot ignore the growing relevance of the lay and social media in the dissemination of accurate information in a clear language. On the contrary, the current pandemic has taught us, with all its information and political biases, the importance of engagement with these powerful media tools, which can decisively contribute to educate and communicate scientific evidence in this digital and “infodemics” era.⁷

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