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Why asthma might surprisingly protect against poor outcomes in COVID-19

Hugo Farne and Aran Singanayagam

Affiliation: National Heart and Lung Institute, Imperial College, London, UK.

Correspondence: Aran Singanaygam, National Heart and Lung Institute, Norfolk Place, London W2 1PG, UK. E-mail: a.singanayagam@imperial.ac.uk

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Asthma may protect against poor outcomes in COVID-19 due to several possible mechanisms, including altered viral entry receptor expression, inhaled corticosteroid use, chronic inflammation, reduced exposure due to shielding and/or mucus hypersecretion https://bit.ly/3eiXOPP

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To the Editor:

We read with interest the study by Beurnier *et al.* [1] describing a lower prevalence of asthma (4.8%) in a cohort of 768 patients hospitalised with coronavirus disease 2019 (COVID-19) compared to the general population, none of whom presented with an asthma exacerbation and only one who was treated for bronchospasm. This subgroup also had significantly reduced mortality compared to a control group without asthma. These findings must be considered preliminary given that they arise from a relatively small, single-centre cohort. In particular, the control group differed significantly in age (older) and gender balance (greater male/female ratio); both characteristics are associated worse outcomes and this raises the possibility that the results represent a statistical artefact. However, if corroborated, these data reflect a surprising departure from previous respiratory viral pandemics, most recently the 2009 H1N1/influenza A outbreak, where asthma was observed to be a major comorbidity in patients requiring hospitalisation (~25% of admissions in a UK series [2]). Asthma was subsequently shown to be associated with an increased risk of acquisition of H1N1/influenza A virus [3] and consequent exacerbation [4]. Strikingly, the original severe acute respiratory syndrome coronavirus (SARS-CoV-1) pandemic was also characterised by an extremely low prevalence of chronic lung disease comorbidities [5], further suggesting that SARS-associated coronaviruses may not exacerbate asthma to the same extent as other respiratory viruses.