

Editorial



COVID-19 and allergy



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Conflict of Interest

The authors have no financial conflicts of
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Since its first report in Wuhan, China, in December 2019, the coronavirus disease 2019 (COVID-19) pandemic caused by severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) virus has totally changed our life throughout the world [1]. ‘Stay home, stay safe.’ As of 9:00 a.m. July 30, 2020 (Korean standard time), total number of confirmed cases was 16,864,828 and the total number of deceased cases was 663,580 in the world [2]. While everyone was terrified, the medical professionals have been keeping our position and treating patients on the frontline of COVID-19. The world is expressing the appreciation and gratitude to doctors, nurses, and other medical professionals as the healthcare heroes. It is important to keep washing hands, wearing mask, and physical distancing in this time of ‘COVID-19 pandemic’ and ‘new normal.’ Numerous clinical trials of vaccines and therapeutic agents are ongoing [3]. Hope the effective vaccines and therapeutic agents could be available soon. Patients with asthma and other allergic diseases are usually considered to be more susceptible to virus such as rhinovirus or influenza virus which induce acute exacerbation. However, the prevalence of asthma and allergic diseases in patients with COVID-19 seems to be lower than expected so far [4-6]. Possible hypotheses have been suggested [1]. Firstly, reduced expression of angiotensin converting enzyme 2 (ACE2), a receptor for the docking spike glycoprotein of SARS-CoV-2 virus, and transmembrane protease serine 2 (TMPRSS2) which cleaves spike protein into two subunits for virus entry by membrane fusion in the mucosal membranes of asthma and respiratory allergy. Secondly, innate immunity such as reduced interferons, increased mannose-binding lectin and surfactant proteins A and D. Finally, possible beneficial effect by therapeutic agents such as inhaled steroid including ciclesonide, azithromycin, and omalizumab. Recent studies, however, found that the expressions of ACE2 and TMPRSS2 from induced sputum did not differ between healthy control and asthma patients, and that the expressions of ACE2 from human bronchial epithelial cell or bronchial biopsy did not differ between healthy control and asthma although ACE2 expression was higher in smokers [7, 8]. The expression of TMPRSS2 from human bronchial epithelial cell was higher in asthma which suggested the cleavage of spike protein of SARS-CoV-2 might be more efficient in asthmatic airways [8].

The theme of World Allergy Week 2020 (June 28–July 4) was “Allergy care does not stop with COVID-19” [9]. It is important to protect our patients and ourselves. Many resources and guidelines for the management of asthma and allergic diseases in the time of COVID-19 are currently available which will be continuously updated [10-12].

In this issue, Kim et al. [13] highlight the importance of microbial extracellular vesicle in the pathogenesis of asthma and chronic obstructive pulmonary disease and its diagnostic potential.

Thunderstorm asthma is the observed increase in acute bronchospasm cases following thunderstorms in the local vicinity [14]. On 21st November 2016, Melbourne experienced the largest, most devastating epidemic of thunderstorm asthma. This issue features a 3-year longitudinal study on the natural history of asthma symptoms after epidemic thunderstorm asthma in Melbourne [15].

Readers will find interesting articles on wheeze sound characteristics and nighttime sleep disturbances in younger children, the tolerability to paracetamol and preferential cyclooxygenase 2 inhibitors in patients with nonsteroidal anti-inflammatory drugs hypersensitivity, and the knowledge and attitudes of residents and interns to drug allergy [16-18]. This issue also contains inspiring articles on the utility of an educational video on epinephrine prefilled syringe usage for anaphylaxis, and the IgE recognition profile of aeroallergen components in young children sensitized to dogs [19, 20].

As the Editor-in-Chief of *Asia Pacific Allergy*, I have to apologize for the very much delayed review processing for many submitted manuscripts this year. The process is now being recovered. The editorial team is doing our best. I appreciate the patience of the authors very much. I also deeply appreciate those who contributed for this issue in times of difficulty.

Please note that Japanese Society of Allergology/World Allergy Organization Joint Congress (JSA/WAO 2020) will be held on September 17–20 this year. Please save the dates!

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