COVID-19 Prognosis in Children With Asthma

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Dear Editor

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is a new coronavirus disease that is highly contagious and affects all age groups of children. The incubation period of Coronavirus disease (COVID-19) ranges from 2 to 14 days. Diagnosis of COVID-19 is made by conducting nasal and pharyngeal swabs and analyzing sputum, stool, and blood samples for COVID-19 nucleic acid using reverse-transcription polymerase chain reaction (RT-PCR). A nasal swab is more sensitive and specific than a pharyngeal swab. Lung CT imaging is a confirmation and complimentary method which is more sensitive than RT-PCR analysis. The mortality rate of COVID-19 infection is very low in children. Treatment of COVID-19 is supportive care and home isolation for 2 weeks (1). The disease has now spread to most countries. Clinical manifestations of COVID-19 vary from asymptomatic to a severe form in children (2).

Allergic disorders, including asthma, are frequent worldwide and have been increasing for decades. Asthma is the most common non-communicable disease in children (3). Asthma treatments can be continued during COVID-19 infection, but biological drugs should be stopped during the acute phase of COVID-19 infection (4-6). Asthmatic patients, particularly with severe or uncontrolled asthma, are at increased risk of manifesting a severe form of COVID-19 (7, 8).

Allergy or asthma is not a risk factor for the higher prevalence of COVID-19 in this population. COVID-19 infection is lower and has a less severe course in children (8). Uncontrolled asthma and immunodeficiency are risk factors for COVID-19 infection; therefore, appropriate medications are recommended on the excellent control of asthma (8, 9). Oral steroids should be continued in the management of asthma when the patient is already taking these medications and in acute asthma attacks based on the Global Initiative for Asthma (GINA) and the British Thoracic Society (BTS) guidelines (10, 11). In some countries, for patients with severe asthma, shielding and protection such as home isolation for up to 12 weeks are recommended (12). Allergy treatments, including antihistamines, corticosteroids, and bronchodilators, do not increase susceptibility to or the severity of COVID-19 disease (8, 13). Patients with allergic asthma, allergic rhinitis, or other allergic conditions should be treated according to guidelines (8, 13, 14). Biologic drugs should be withheld during acute COVID19 infection (13). GINA recommends avoiding using nebulizers for asthma attacks due to the increased risk of disseminating COVID-19 to other personnel. Therefore, a pressurized metered-dose inhaler (pMDI) via a spacer is the preferred treatment during asthma attacks (9). Atopic dermatitis or active skin lesions has

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not been associated with a higher risk of SARS-CoV-2 infection. Patients with severe or uncontrolled asthma are at increased risk of developing more severe forms of COVID-19 but not preexisting allergic disorders (4). Incidence, clinical features, laboratory findings, disease course, and immunological findings are comparable between allergic and non-allergic children with COVID-19 infection (14). A recent study from the USA suggests that asthma disease is much more common in children and adults with COVID-19 than it was already reported in China and Europe (15).

The association between allergic disease and severe clinical outcomes of COVID-19 has remained unclear. The best option to prevent COVID-19 is the social distancing of families with asthmatic children (16). COVID-19 is not associated with severe asthma exacerbations and uncontrolled asthma, developing more severe COVID-19 (17). Unlike previous studies, Lommatzsch et al. believed that allergic asthma might have a lower risk of developing a severe form of COVID-19 and omalizumab (anti-IgE antibody) enhances anti-viral immunity (18). There is no relation between asthma, asthma medication, or asthma severity and the clinical outcomes of COVID-19 (19). Castro-Rodriguez et al. reported that asthma is a potential risk factor for COVID-19 severity but not mortality in children (20).

Ethical Considerations

Compliance with ethical guidelines

All ethical principles are considered in this article.

Funding

This research did not receive any grant from funding agencies in the public, commercial, or non-profit sectors.

Conflicts of interest

The author declared no conflict of interest.

Acknowledgments

The author would like to thank the Clinical Research Development Unit of Bu-Ali Sina Hospital, Mazandaran University of Medical Sciences, Sari, Iran, for their support, cooperation, and assistance.

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