# Letter to Editor:
# Biological Agents in Allergic Disorders During COVID-19

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## Dear Editor

Allergic disorders are common in the world. Asthma affects more than 300 million people globally and affects about 12% of children in Iran [1, 2]. Urticarial affects 15%-30% of the general population in their lifetime [3, 4]. Biological agents such as omalizumab and ligelizumab (anti-IgE), mepolizumab (anti-IL-5), dupilumab (IL-4R alpha), benralizumab (anti-IL-5 receptor alpha), and reslizumab (anti-human IL-5) are used in allergic diseases such as moderate to severe asthma, severe urticarial, chronic rhinosinusitis with nasal polyps and atopic dermatitis [5-8]. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) affects all age groups and is highly contagious [9]. Anti-allergic drugs are taken as follows: dupilumab at home after the first administration in the Allergology and Clinical Immunology (ACI) units, omalizumab at home after the fourth administration without a history of anaphylaxis, benralizumab at home after training the patients, and mepolizumab must be administered by the doctor [10]. What are the comments about the use of biologic drugs in allergic disorders during COVID 19 infection?

Biologic agents (omalizumab, mepolizumab, reslizumab, benralizumab, and dupilumab) are genetically engineered proteins with anti-inflammatory effects due to blocking specific molecules of the immune system such as IgE, IL-4, Il-5, and IL13 [5-7, 9, 10].

Biological therapies could be continuing in pandemic COVID 19, but it is not recommended during the acute phase of COVID-19 infection [9, 11]. Biological agents should be stopped in patients with active SARS-CoV-2 infection and moderate-to-severe COVID-19 until clinical improvement and negative tests of COVID-19. Immune response to COVID-19 is not impaired in asthma treated patients with anti-IL5Ra, anti-IL4/IL13, or anti-IgE and anti-IL5 medications [12]. Omalizumab may have an anti-infectious effect [13]. In conclusion, biological drugs should be maintained in allergic diseases in non-infected individuals with COVID-19. In infected patients with COVID-19, the biological agents should be stopped in children and adults until recovery.

Tocilizumab (anti-IL6) improves the clinical manifestation and reduced mortality rates in severe and critical COVID-19 patients [14]. Anakinra (anti-IL1) is considered as second-line therapy in COVID-19 infection [15]. Baricitinib (Janus kinase or JAK inhibitor) and anti-tumor necrosis factor (TNF)-α agents could be useful in COVID-19 infection [16].

## Ethical Considerations

### Compliance with ethical guidelines

There were no ethical considerations to be considered in this research.

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## Conflict of interest

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