

## Selections from international journals

**Nahla M. Heshmat**

*Professor of Pediatrics, Ain Shams University*

---

*World Allergy Organ J. 2020; 13(5): 100125.*

### **Acute asthma management during SARS-CoV2-pandemic 2020.**

Levin M, Ansotegui IJ, Bernstein J, Chang Y, Chikhladze M, Ebisawa M, Fiocchi A, Heffler E, Martin B, Morais-Almeida M, Papadopoulos NG, Peden D, Wongm GWK.

Background: The current COVID-19 pandemic has changed many medical practices in order to provide additional protection to both our patients and healthcare providers. In many cases this includes seeing patients through electronic means such as telehealth or telephone rather than seeing them in person. Asthma exacerbations cannot always be treated in this way. Problem: Current emergency unit asthma guidelines recommend bronchodilators be administered by metered dose inhaler (MDI) and spacer for mild-moderate asthma and include it as a choice even in severe asthma, but many emergency units continue to prefer nebulised therapy for patients who urgently require beta-agonists. The utilization of nebulised therapy potentially increases the risk of aerosolization of the coronavirus. Since nosocomial transmission of respiratory pathogens is a major threat in the context of the SARS-CoV-2 pandemic, use of nebulised therapy is of even greater concern due to the potential increased risk of infection spread to nearby patients and healthcare workers. Practical implications: We propose a risk stratification plan that aims to avoid nebulised therapy, when possible, by providing an algorithm to help better delineate those who require nebulised therapy. Protocols that include strategies to allow flexibility in using MDIs rather than nebulisers in all but the most severe patients should help mitigate this risk of aerosolised infection transmission to patients and health care providers. Furthermore, expedient treatment of patients with high dose MDI therapy augmented with more rapid initiation of systemic therapy may help ensure patients are less likely to deteriorate to the stage where nebulisers are required.

*J Allergy Clin Immunol. 2020; 146(3): 518–534.e1.*

### **The role of IL-6 and other mediators in the cytokine storm associated with SARS-CoV-2 infection.**

Copaescu A, Smibert O, Gibson A, Phillips EJ, Trubiano JA.

The coronavirus disease 2019 pandemic caused by severe acute respiratory syndrome coronavirus 2 presents with a spectrum of clinical manifestations from asymptomatic or mild, self-limited constitutional symptoms to a hyperinflammatory state (“cytokine storm”) followed by acute respiratory distress syndrome and death. The objective of this study was to provide an evidence-based review of the associated pathways and potential treatment of the hyperinflammatory state associated with severe acute respiratory syndrome coronavirus 2 infection. Dysregulated immune responses have been reported to occur in a smaller subset of those infected with severe acute respiratory syndrome coronavirus 2, leading to clinical deterioration 7 to 10 days after initial presentation. A hyperinflammatory state referred to as cytokine storm in its severest form has been marked by elevation of IL-6, IL-10, TNF- $\alpha$ , and other cytokines and severe CD4+ and CD8+ T-cell lymphopenia and coagulopathy. Recognition of at-risk patients could permit early institution of aggressive intensive care and antiviral and immune treatment to reduce the complications related to this proinflammatory state. Several reports and ongoing clinical trials provide hope that available immunomodulatory therapies could have therapeutic potential in these severe cases. This review highlights our current state of knowledge of immune mechanisms and targeted immunomodulatory treatment options for the current coronavirus disease 2019 pandemic.

***Pediatr Allergy Immunol. 2020; 31(Suppl 25): 1–101.***

**EAACI Allergen Immunotherapy User’s Guide.**

Alvaro-Lozano M, Akdis CA, Akdis M, Alviani C, Angier E, Stefania Arasi, Arzt-Gradwohl L, Barber D, Bazire R, Cavkaytar O, Comberiati P, Dramburg S, Durham SR, Eifan AO, Forchert L, Halcken S, Kirtland M, Kucuksezer UC, Layhadi JA, Matricardi PM, Muraro A, Ozdemir C, Pajno GB, Pfaar O, Potapova E, Riggioni C, Roberts G, Rodriguez del Rio P, Shamji MH, Sturm GJ, Vazquez-Ortiz M.

Allergen immunotherapy is a cornerstone in the treatment of allergic children. The clinical efficiency relies on a well-defined immunologic mechanism promoting regulatory T cells and downplaying the immune response induced by allergens. Clinical indications have been well documented for respiratory allergy in the presence of rhinitis and/or allergic asthma, to pollens and dust mites. Patients who have had an anaphylactic reaction to hymenoptera venom are also good candidates for allergen immunotherapy. Administration of allergen is currently mostly either by subcutaneous injections or by sublingual administration. Both methods have been extensively studied and have pros and cons. Specifically in children, the choice of the method of administration according to the patient's profile is important. Although allergen immunotherapy is widely used, there is a need for improvement. More particularly, biomarkers for prediction of the success of the treatments are needed. The strength and efficiency of the immune response may also be boosted by the use of better adjuvants. Finally, novel formulations might be more efficient and might improve the patient's adherence to the treatment. This user's guide reviews current knowledge and aims to provide clinical guidance to healthcare professionals taking care of children undergoing allergen immunotherapy.

***J Allergy Clin Immunol Pract. 2020; 8(8): 2461–2473.e3.***

**Work Group Report: COVID-19: Unmasking Telemedicine.**

Hare N, Bansal P, Bajowala SS, Abramson SL, Chervinskiy S, Corriel R, Hauswirth DW, Sujani Kakumanu S, Mehta R, Rashid Q, Rupp MR, Shih J, Mosnaim GS.

Telemedicine adoption has rapidly accelerated since the onset of the COVID-19 pandemic. Telemedicine provides increased access to medical care and helps to mitigate risk by conserving personal protective equipment and providing for social/physical distancing to continue to treat patients with a variety of allergic and immunologic conditions. During this time, many allergy and immunology clinicians have needed to adopt telemedicine expeditiously in their practices while studying the complex and variable issues surrounding its regulation and reimbursement. Some concerns have been temporarily alleviated since March 2020 to aid with patient care in the setting of COVID-19. Other changes are ongoing at the time of this publication. Members of the Telemedicine Work Group in the American Academy of Allergy, Asthma & Immunology (AAAAI) completed a telemedicine literature review of online and Pub Med resources through May 9, 2020, to detail Pre-COVID-19 telemedicine knowledge and outline up-to-date telemedicine material. This work group report was developed to provide guidance to allergy/immunology clinicians as they navigate the swiftly evolving telemedicine landscape.