Prompt Predicting of Early Clinical Deterioration of Moderate-to-Severe COVID-19 Patients: Usefulness of a Combined Score Using IL-6 in a Preliminary Study
Vultaggio et al 2575

What is already known about this topic? Several clinical and laboratory factors have been reported to be associated with disease severity and death in patients with COVID-19. The time between hospital admission and clinical deterioration may be very short.

What does the article add to our knowledge? We showed that elevated serum IL-6 levels at admission correlate with clinical worsening in COVID-19. We identified a 3-variable score (IL-6, C-reactive protein [CRP], \( \text{SaO}_2/\text{FiO}_2 \)) able to predict further clinical deterioration of patients with moderate-to-severe COVID-19 early in the course of admission.

How does the study impact current management guidelines? IL-6, CRP, and \( \text{SaO}_2/\text{FiO}_2 \) ratio, combined in our proposed score, could help clinicians to identify on admission those patients with COVID-19 who are at high risk for a further 3-day clinical deterioration.

Persistent Viral Presence Determines the Clinical Course of the Disease in COVID-19
Chang et al 2585

What is already known about this topic? Coronavirus disease 2019 has emerged as a major pandemic. The disease manifests from mild to severe infections. Various risk factors such as advanced age and comorbidities have been identified. However, precise factors contributing to the disease severity remain unknown.

What does this article add to our knowledge? Viral clearance is a major determinant of disease pathology. Prolonged viral presence was associated with increased disease severity markers including admission to intensive care units and greater lung involvement of chest imaging.

How does this study impact current management guidelines? In the absence of antiviral therapies, anti-inflammatory therapies or other therapies that may delay viral clearance should be used with caution.

Impact of COVID-19 on Pediatric Asthma: Practice Adjustments and Disease Burden
Papadopoulos et al 2592

What is already known about this topic? Coronavirus disease 2019 has a mild disease course in children and adolescents. Chronic respiratory conditions, including asthma, have been suggested as risk factors; however, asthma in children is highly variable in both triggers and severity.

What does this article add to our knowledge? During the pandemic, pediatric asthma services limited consultations and established virtual clinics. However, respondents perceived their patients’ asthma control to be retained or even improved, while treatment adherence was considered increased. Children with asthma were not disproportionately affected by coronavirus disease 2019.

How does this study impact current management guidelines? Trigger avoidance and treatment adherence can rapidly improve asthma control in children, even under lockdown pressure. Children/adolescents with asthma do not appear to need additional prophylactic measures from coronavirus disease 2019 when asthma is well-treated.

SARS-CoV-2 Pneumonia in Hospitalized Asthmatic Patients Did Not Induce Severe Exacerbation
Grandbastien et al 2600

What is already known about this topic? Patients with asthma are rare in epidemiological studies of severe acute respiratory syndrome coronavirus 2 pneumonia.

What does this article add to our knowledge? Being asthmatic is not a risk factor for severe acute respiratory syndrome coronavirus 2.

How does this study impact current management guidelines? Severe acute respiratory syndrome coronavirus 2 pneumonia may not induce severe asthma exacerbation.
Treating Allergic Bronchopulmonary Aspergillosis with Short-Term Prednisone and Itraconazole in Cystic Fibrosis
Gothe et al

What is already known about this topic? Allergic bronchopulmonary aspergillosis (ABPA) contributes significantly to cystic fibrosis (CF) lung disease. The optimal treatment strategy, however, is yet to be defined.

What does this article add to our knowledge? The combination of short-term prednisone and long-term itraconazole treatment is effective in preventing ABPA-induced lung function decline without detrimental glucocorticoid side effects in patients with CF.

How does this study impact current management guidelines? The proposed regimen offers a new approach to treat CF-related ABPA reducing both lung function deterioration and glucocorticoid-induced adverse effects. It might, therefore, help optimizing current treatment guidelines.

Heterogeneity of Mild to Moderate Persistent Asthma in Children: Confirmation by Latent Class Analysis and Association with 1-Year Outcomes
Fitzpatrick et al

What is already known about this topic? In contrast to children with difficult-to-treat or severe asthma, phenotypic characterization of children with mild to moderate persistent asthma is still limited and it remains unclear which of these children are at the highest risk for poor outcomes.

What does this article add to our knowledge? Five latent classes were identified. At 1 year, lung function deficits and exacerbations were the greatest in the latent class with multiple sensitization and partially reversible airflow limitation despite intervention with asthma controller therapy.

How does this study impact current management guidelines? Latent class analysis is useful for identifying risk factors in children with mild to moderate asthma. Children with multiple sensitization and partially reversible airflow limitation are a particularly vulnerable group that may warrant more aggressive treatment.

Prospective, Single-Arm, Longitudinal Study of Biomarkers in Real-World Patients with Severe Asthma
Buhl et al

What is already known about this topic? Serum periostin, blood eosinophil count, serum IgE, and fractional exhaled nitric oxide (FeNO) are biomarkers associated with type 2 inflammation phenotypes of severe asthma that may identify patients at risk of asthma exacerbations.

What does this article add to our knowledge? The primary analysis found no clinically meaningful differences in the exacerbation rates between patients with high versus low periostin levels. Post hoc analyses suggested that high blood eosinophils, high FeNO, or both might predict asthma exacerbations.

How does this study impact current management guidelines? The results demonstrated that the clinical utility of periostin as an asthma biomarker is unclear. However, high blood eosinophils or high FeNO may identify patients at risk of an exacerbation. As a secondary objective, the study found that central and local measurements of type 2 biomarker levels were generally in agreement.

Health Services Utilization Is Increased in Poor Perceivers of Bronchoconstriction and Hyperinflation in Asthma
O’Loghlen et al

What is already known about this topic? Patients with asthma who have impaired perception of external resistive loads are at higher risk of increased health services utilization. Whether individuals with poor perception of the intrinsic mechanical loads that result from bronchoconstriction (BC) and dynamic hyperinflation (DH) are also at increased risk of asthma-related morbidity and mortality is uncertain.

What does this article add to our knowledge? Ours is a novel study using experimental bronchoprovocation data to stratify subjects into categories of poor, normal, and over perception of mild, moderate, and severe BC and DH. We then linked these data to objective information on health services utilization using Ontario’s administrative health databases. Our findings suggest that individuals with asthma who are poor perceivers of BC and particularly DH have higher rates of emergency department visits and hospitalizations.

How does this study impact current management guidelines? Identifying patients with asthma who have abnormal symptom perception may be useful clinically. These patients may benefit from regular monitoring of more objective measures of lung function (ie, peak flows and spirometry).
Tiotropium Respimat Efficacy and Safety in Asthma: Relationship to Age
Doherty et al

What is already known about this topic? There is a perception that there is a differential response to bronchodilators in older compared with younger patients with asthma, yet this perception is based on limited data.

What does this article add to our knowledge? The current analyses demonstrate that the bronchodilator efficacy and safety of tiotropium Respimat is not impacted by age in patients with symptomatic moderate or severe asthma.

How does this impact current management guidelines? These results have important therapeutic implications, because there is an increase in the aging population worldwide as well as increased prevalence of asthma in older individuals.

The Association of Early Life Viral Respiratory Illness and Atopy on Asthma in Children: Systematic Review and Meta-Analysis
Wadhwa et al

What is already known about this topic? Early life viral respiratory illness is commonly associated with wheezing.

What does this article add to our knowledge? There is a difference between atopic and nonatopic children in the association between viral respiratory illness and risk for subsequent asthma/wheeze; however, available evidence is not conclusive. Further studies that consider early life atopy with human rhinovirus infection are warranted.

How does this study impact current management guidelines? The study results recommend further research into the identification of patterns of allergic sensitization that in association with early life viral illness pose the greatest risk for developing asthma.

Treatment Benefit with Omalizumab in Children by Indicators of Asthma Severity
Szefler et al

What is already known about this topic? Greater severity in childhood asthma negatively impacts physical/social functioning and quality of life. Omalizumab is effective in children aged 6 years or older with moderate to severe persistent asthma.

What does this article add to our knowledge? This post hoc analysis of 3 randomized controlled trials is the first to demonstrate, using multiple markers of asthma severity, that exacerbation reduction with omalizumab is greater in pediatric patients with more severe asthma.

How does this study impact current management guidelines? Consistent treatment benefits were observed among children with moderate to severe persistent asthma; improvements were greater in children with more severe subtypes. These findings support the use of omalizumab in these subpopulations.

Serum Eosinophil-Derived Neurotoxin Better Reflect Asthma Control Status Than Blood Eosinophil Counts
An et al

What is already known about this topic? Although several biomarkers have been proposed for eosinophilic asthma, there are few reliable biomarkers that reflect asthma control status. Eosinophil-derived neurotoxin (EDN), a degranulated eosinophil protein of eosinophil, is an emerging biomarker in asthmatics.

What does this article add to our knowledge? Serum EDN is a promising biomarker that differentiates between patients with controlled and uncontrolled asthmatic status. Furthermore, serum EDN might be a better biomarker for indicating control status than total eosinophil count in adult asthmatics.

How does this study impact current management guidelines? With the development of new biologics, serum EDN may be a useful biomarker for monitoring uncontrolled disease status in asthmatics who are being administered eosinophil targeting biologics.
Comorbid Obesity and Depressive Symptoms in Childhood Asthma: A Harmful Synergy
Hsu et al 2689

What is already known about this topic? Depression and obesity are known to be associated with increased asthma severity and decreased asthma control in children. Various mechanisms to explain this morbidity have been proposed, but a systematic investigation of potential pathways is needed.

What does this article add to our knowledge? Among overweight/obese children with asthma, greater depressive symptoms are associated with compromised lung function. We present evidence that increased vagal/cholinergic reactivity (vagal bias) may be a mechanism underlying this association.

How does this study impact current management guidelines? Comorbid obesity and depression should be identified by clinicians for children with asthma. Treatment of these risk factors and/or anticholinergic inhaled medication as adjunct therapy may offer benefit in children with asthma, obesity, and depression.

Standardized IOS Reference Values Define Peripheral Airway Impairment-Associated Uncontrolled Asthma Risk Across Ethnicity in Children
Galant et al 2698

What is already known about this topic? Peripheral airway impairment has frequently been defined by optimal impulse oscillometry cutoff points determined by best-fit analysis for sensitivity and specificity for clinical outcomes, which can vary by population and specific outcome.

What does this article add to our knowledge? We have shown that peripheral airway impairment, defined by standardized impulse oscillometry reference values based on 95% of the normal population, is a consistent available marker of uncontrolled asthma risk in Hispanic and white children.

How does this study impact current management guidelines? Available standardized impulse oscillometry reference values provide the clinician with a consistent tool to identify the risk of peripheral airway impairment outcomes in children with asthma, which may apply across ethnicity.

Clinical Characterization and Diagnostic Approaches for Patients Reporting Hypersensitivity Reactions to Quinolones
Doña et al 2707

What is already known about this topic? Quinolones can induce hypersensitivity through several mechanisms, being the third most common drug associated with hypersensitivity, and the second most frequent drug inducing both IgE-mediated hypersensitivity and severe anaphylaxis. The optimal diagnostic approach remains a controversial topic.

What does this article add to our knowledge? The risk of having quinolone hypersensitivity is higher for immediate reactions, particularly for moxifloxacin-induced anaphylaxis. The basophil activation test has a higher sensitivity than skin test. Drug provocation tests can be useful to identify safe alternative quinolones.

How does this study impact current management guidelines? We propose an algorithm for diagnosing quinolone-induced reactions, which should be classified according to the interval between drug intake and reaction onset, using a 6-hour threshold. The algorithm includes skin, basophil activation, and drug provocation tests as necessary.

Single-Organ and Multisystem Hypereosinophilic Syndrome Patients with Gastrointestinal Manifestations Share Common Characteristics
Kuang et al 2718

What is already known about this topic? Very little is currently known about the differences between patients with eosinophilic gastrointestinal disease (EGID) and hypereosinophilia (HES/EGID overlap) and those with EGID in the setting of Multisystem HES.

What does this article add to our knowledge? Patients with EGID and HES share common characteristics irrespective of single- or multisystem involvement. Patients with Multisystem HES may present with isolated gastrointestinal (GI) involvement before development of other organ involvement.

How does this study impact current management guidelines? There are no current standardized diagnostic, prognostic, or treatment guidelines for patients with HES with GI involvement other than expert opinion. This article adds to the collective knowledge of this rare patient population.
Community Private Practice Clinical Experience with Peanut Oral Immunotherapy
Afinogenova et al

What is already known about this topic? Food allergies, including peanut allergy, are increasing in the United States, and peanut oral immunotherapy has been used in several centers as an effective treatment.

What does this article add to our knowledge? The safety of peanut oral immunotherapy has been debated. This article examines the rates of adverse events in patients on peanut oral immunotherapy and proposes patient and immunologic factors that may be associated with adverse reactions.

How does this study impact current management guidelines? This study aims to provide clinicians with data from private practice clinical experience using peanut oral immunotherapy to help anticipate and prepare for possible adverse events and develop strategies for more individualized treatments.

Prevalence of Food Sensitization and Food Allergy in Children Across Europe
Lyons et al

What is already known about this topic? For adults, standardized data collection all across Europe has yielded prevalence estimates of food sensitization (FS) and of food allergy (FA) defined as symptoms plus IgE sensitization, that can be validly compared internationally. For children, such estimates are lacking.

What does this article add to our knowledge? Using methodology identical to that in adults, prevalence estimates of FS and FA, respectively ranging from 11.0% to 28.7% and from 1.0% to 5.6%, were found in school-age children across Europe. Both primary and cross-reactive FS and FA occurred frequently at this age.

How does this study impact current management guidelines? This study reveals the substantial geographical variation in the prevalence of FS and FA in school-age children across Europe, provides prevalence estimates for 24 commonly implicated foods in multiple countries, and facilitates valuable comparison with adults.

Clinical, Immunological, and Genetic Features in Patients with Immune Dysregulation, Polyendocrinopathy, Enteropathy, X-linked (IPEX) and IPEX-like Syndrome
Jamee et al

What is already known about this topic? Immune dysregulation, polyendocrinopathy, enteropathy, X-linked (IPEX) and IPEX-like syndromes are rare inborn errors of immunity with similar immune dysregulation phenomena and different monogenic defects. These 2 groups of disorders have not yet been comprehensively compared.

What does this article add to our knowledge? IPEX syndrome is characterized by more frequent endocrinopathies, earlier development of autoimmune diseases, and also higher serum levels of IgE and autoantibodies, whereas in patients with IPEX-like syndrome, respiratory tract infections, bronchiectasis, and organomegaly are more common.

How does this study impact current management guidelines? IPEX should be considered in male patients with enteropathy, dermatitis, autoimmune disease, endocrinopathy, eosinophilia, and elevated serum IgE, and if the FOXP3 was intact, IPEX-like syndromes are probable. Hematopoietic stem cell transplantation in IPEX may result in favorable outcomes.

Microarray-Based Detection of Allergen-Reactive IgE in Patients with Mastocytosis
Smiljkovic et al

What is already known about this topic? Patients with mastocytosis are at high risk to develop fatal anaphylaxis. Therefore, early detection of immunoglobulin E (IgE) sensitization is of particular importance in these patients.

What does this article add to our knowledge? A broad screen by allergen-chip profiling was found to identify multiple, potentially clinically relevant, IgE species in patients with mastocytosis in a single test.

How does this study impact current management guidelines? Allergen-chip profiling represents a useful tool to screen for allergen-specific IgE species in patients with mastocytosis and may thus help in early detection of life-threatening IgE sensitivities in high-risk patients.