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Approach to Patients with Eosinophilia 1
Fei Li Kuang

Physicians may encounter blood or tissue eosinophilia through a routine complete blood count with differential or a tissue pathology report. In this article, the basic biology of eosinophils is reviewed and definitions of blood eosinophilia, as well as the challenges of defining tissue eosinophilia, are discussed. Conditions associated with eosinophilia are briefly discussed as well as a general approach to evaluating eosinophilia. Future challenges include determining which eosinophil-associated diseases benefit from eosinophil-targeted therapy and identifying biomarkers for disease activity and diagnosis.

Approach to the Patient with Hives 15
Justin Greiwe and Jonathan A. Bernstein

Urticaria is a common presenting problem to the primary care provider. Acute urticaria lasting less than 6 weeks may be associated with a drug or food allergens. Chronic urticaria lasting more than 6 weeks is often associated without a known underlying cause. Inducible stimuli causing hives should be excluded using specific provocation testing. Treatment follows a standardized algorithmic approach as outlined by the Joint Task Force Practice Parameter and/or International Urticaria guidelines. Patients not responsive to steps 1 or 2 should be referred to an urticaria specialist for further evaluation and treatment. The prognosis and outcome of urticaria is generally very favorable for most patients.

Anaphylaxis for Internists: Definition, Evaluation, and Management, with a Focus on Commonly Encountered Problems 25
Derek K. Chu, David J. McCullagh, and Susan Waserman

Anaphylaxis is an acute systemic allergic reaction that can be life threatening. In adults, the most common causes of anaphylaxis are foods, drugs, and insect stings. This article reviews the definition, classification, evaluation, differential diagnosis, prognosis, complications, and management of anaphylaxis. Tailored for internists, the article focuses on anaphylactic medication allergies. It provides a guide to optimally evaluate and manage patients with antibiotic allergy using a simple, rapid risk stratification technique, graded antibiotic challenge (test dose), and/or allergist-
guided drug desensitization. It also reviews other causes of anaphylaxis that internists are likely to encounter, and an approach to their management.

Cough: A Practical and Multifaceted Approach to Diagnosis and Management

Baotran B. Tran and Anne Marie Ditto

Cough is a common symptom often confronted in the clinical setting. Time and resources attributed to cough place an undue burden on patients and the health care system. One characteristic of cough that likely contributes to this is the multifactorial nature of cough. Physicians are trained to find a single diagnosis to explain symptoms. With cough, if all factors contributing are not identified and treated together, the cough often remains unresolved. This article provides a practical approach to treatment and management of cough, emphasizing causes and potentiators.

Allergic Contact Dermatitis

Stacy Nassau and Luz Fonacier

Allergic contact dermatitis is common, resulting in considerable morbidity. Diagnosis is based on a thorough history, physical examination, and patch testing. Several commercially available panels of patch testing are currently used. Allergens are found in a wide variety of daily products, occupational exposures, and foods. The mainstay of treatment is avoidance of the allergen, and databases like Contact Allergen Management Program and Contact Allergen Replacement Database help patients to select products that do not contain allergens to which they are sensitized. Topical corticosteroids can be used to treat exacerbations, but should be avoided in long-term treatment.

Approach to Patients with Allergic Rhinitis: Testing and Treatment

Linda Cox

This article evaluates the role of allergen immunotherapy (AIT) in the treatment of allergic rhinitis (AR). AIT has been shown to be effective in treating AR symptoms with resultant improvements in overall quality of life, comorbid illnesses, and medication requirements. Persistent clinical benefits have been shown years after AIT treatment discontinuation. AIT may prevent the progression of AR to asthma. AIT may more cost-effective than pharmacotherapy. Multiple individual studies and systematic reviews provide strong evidence for the clinical effectiveness of AIT in the treatment of AR. Cost-effectiveness and disease modification of AIT compared with standard drug treatment are additional advantages.

Asthma in Adults

Anil Nanda and Anita N. Wasan

Asthma affects approximately 300 million people worldwide and approximately 7.5% of adults in the United States. Asthma is characterized by inflammation of the airways, variable airflow obstruction, and bronchial hyperresponsiveness. The diagnosis of asthma is a clinical one with the history and physical examination being significant, but objective measures,
such as pulmonary function testing, can be used to aid in the diagnosis. There are multiple associated comorbidities with asthma, including rhinitis, sinusitis, gastroesophageal reflux disease, obstructive sleep apnea, and depression. There is often an allergic component of asthma, and patient education is vital.

**Drug Hypersensitivity Reactions**

Mark S. Dykewicz and Jason K. Lam

Drug hypersensitivity reactions (DHRs) may be classified based on timing (immediate vs delayed), mechanisms, and pattern of clinical manifestations. Management may include selection of alternative, non-cross reactive agents, drug allergy testing, graded challenge and/or desensitization. Immediate skin testing only identifies risk for immediate-type allergic DHR and has a negative predictive value for only a limited number of drugs (e.g., penicillin). Desensitization induces a temporary state of tolerance that is maintained only so long as the drug is continued. This article discusses special considerations about antibiotics, angiotensin-converting enzyme inhibitors, anesthetic agents, aspirin and nonsteroidal antiinflammatory drugs, radiocontrast media, and chemotherapeutic agents.

**Approach to Patients with Stinging Insect Allergy**

Elissa M. Abrams and David B.K. Golden

Stinging insect allergy is uncommon but can be life threatening. Diagnosis requires clinical history and confirmative skin or blood testing by an allergist. Baseline serum tryptase level can be used to stratify risk. Treatment is supportive for all reactions except for anaphylaxis, which is treated with intramuscular epinephrine, recumbent posture, and adjunct measures such as IV fluids, and oxygen. Venom immunotherapy is most effective for long-term management in patients with a history of anaphylaxis. Venom immunotherapy rapidly reduces the risk of sting anaphylaxis by up to 98% and maintenance treatment can be stopped after 5 years in most cases.

**Food Allergy in Adults: Presentations, Evaluation, and Treatment**

Mahboobeh Mahdavinia

Food allergy presents in all ages and has a significant impact on an individual’s quality of life. Some of the food allergies that start in childhood remain into adulthood and new-onset allergies can occur at any point of life. Health care providers caring for adult patients should be aware of various food allergy presentations and syndromes. In this article, the authors cover recent literature on food allergies in adults and discuss the epidemiology of adult food allergy as well as common clinical scenarios and presentations of various types of food allergies.

**Atopic Dermatitis in Adults**

Jonathan I. Silverberg

Atopic dermatitis (AD) was once thought to be a benign childhood disease that remitted with increasing age. However, recent studies have transformed the understanding of AD, particularly in adult patients. AD is
common in adults and can lead to substantial disability by negatively affecting sleep, mental health, and quality of life. There seem to be different genetic, immunologic, and epidemiologic risk factors for AD in adults than in children. This article examines the pathophysiology, epidemiology, heterogeneous clinical presentation, burden, diagnosis, and treatment of adult AD.

Mast Cell Activation: When the Whole Is Greater than the Sum of Its Parts

Dilawar Khokhar and Cem Akin

Mast cell activation syndrome (MCAS) is a heterogeneous and rare disorder with episodic and severe activation of mast cells. Because symptoms of mast cell activation are nonspecific, it is important to base the diagnosis on best available clinical and scientific evidence, and not make it one of exclusion. MCAS, much like the mast cell itself, as a whole is greater than the sum of its proposed diagnostic criteria. When each component is considered in isolation, criteria can seem nonspecific, and thus, a broad constellation of symptoms can be attributed to MCAS when they may be due to other disease processes.