CONTENTS

Preface xi
Anthony Montanaro

Genetics of Allergic Disease 1
John W. Steinke and Larry Borish

Genetics provides the basis for the host response to a variety of environmental factors that can result in complex genetic diseases, such as asthma and atopy. An understanding of the genetic basis for these conditions is essential to understand their pathophysiology. Several regions of the human genome have been reproducibly associated with asthma and atopy and the functional effects of the variation in these regions are being elucidated. It is hoped that these and ongoing studies will ultimately define new targets for the next generation of asthma and allergy therapeutics.

Allergic Rhinitis: Impact of the Disease and Considerations for Management 17
Alexander N. Greiner

Allergic rhinitis is a common yet underappreciated inflammatory condition of the nasal mucosa. This article reviews current concepts of classification, the impact of the disease on quality of life, and associated conditions and provides a detailed account of currently available treatment options.

Asthma: Diagnosis and Management 39
Sameer K. Mathur and William W. Busse

The diagnosis and management of asthma continue to be of critical importance, as recent trends have demonstrated its increasing prevalence, morbidity, and perhaps mortality. Because current treatments for asthma are effective and safe, it is important to diagnose asthma early and to use treatments effectively, particularly those directed toward airway inflammation. The diagnostic
measures and array of medications, both those currently available and on the horizon, provide an armamentarium for effective diagnosis, management, and monitoring of asthma. In coming years, it is expected that additional testing modalities will be available for more precise monitoring of asthma control, and an increased understanding of pharmacogenetics will enable the tailoring of asthma medications to specific patients, providing customized therapy to maximize asthma control.

Differential Diagnosis of Adult Asthma
Stephen A. Tilles

Asthma is a common syndrome that affects approximately 5% of the adult population in the United States. This article focuses on the differential diagnosis of adult asthma, including a discussion of reasonable clinical approaches to determining the correct diagnosis. Chronic obstructive pulmonary disease and vocal cord dysfunction are discussed in the most detail because these are more likely to be mistaken for asthma in clinical practice. Less common asthma masqueraders are then discussed, including those that also may confound or aggravate asthma.

Anaphylaxis
Phillip Lieberman

Anaphylaxis is an acute multisystem allergic reaction that is potentially fatal. Anaphylactic episodes are most commonly caused by foods or drugs, but in many instances have no known cause. Each physician should be equipped in office for therapy of the acute event. The drug of choice, which should be administered immediately, is epinephrine. Although there is some debate as to the preferred injection site, it is clear that of sites studied to date, injection in the lateral thigh (vastus lateralis) produces the most rapid rise in serum level. Any patient predisposed to anaphylactic episodes should wear identifying medical jewelry and avoid, whenever possible, drugs that could worsen an event or complicate its therapy.

Adverse Reactions to Foods
Anna Nowak-Wegrzyn and Hugh A. Sampson

Over the past 20 years, food allergy has emerged as an important clinical problem in Westernized countries. Not only has food allergy prevalence almost doubled but its severity and scope have increased. Consequently, research focusing on characterization, mapping, and cloning of food allergens, as well as on deciphering the nature of immune responses to food allergens and the mechanisms of oral tolerance, has blossomed. It is hoped that this research will lead to the development of therapeutic modalities for food allergy in the near future. This article discusses the pathomechanism of food allergic reactions, classification and manifestations of clinical food allergic disorders, and an approach to diagnosis and management.
Allergic Diseases of the Eye

Leonard Bielory

The prevalence of ocular allergy is clearly underappreciated; it has been an underdiagnosed and undertreated area in primary care medicine. The ocular symptoms associated with the most common ocular allergy conditions, such as seasonal and perennial allergic conjunctivitis, are twice as likely to affect the allergy sufferer as nasal symptoms alone. The emergence of new medications for the specific treatment of ocular symptoms over the course of the past 15 years offers a new field for improved patient care by the primary and subspecialty health care providers.

Atopic Dermatitis

Eric L. Simpson and Jon M. Hanifin

Atopic dermatitis (AD) is an eczematous, highly pruritic chronic inflammatory skin disease. It usually begins early in life and often occurs in people with a personal or family history of asthma and allergic rhinitis. The prevalence is high, especially in children, and it has been rising in recent decades, in parallel with asthma prevalence. Although AD is often described as an “allergic” disease, allergic causation is difficult to document, and AD is increasingly viewed as a skin disease that predisposes to allergies. This interpretation, based on clinical, epidemiologic, and animal studies, may greatly influence our approach to therapy and prevention of atopic diseases in the coming years.

Allergic Contact Dermatitis

Barry J. Mark and Raymond G. Slavin

Allergic contact dermatitis (ACD) is a common pruritic skin condition. ACD is the prototypic delayed hypersensitivity reaction and requires contact allergens to penetrate the stratum corneum to initiate an immune response. A patient’s past exposure to suspect allergens, along with the appearance and anatomic distribution of the lesions, help to support the diagnosis of ACD. When combined with appropriate patch testing, physicians can confidently identify the culprit allergens. Allergen avoidance and corticosteroids remain the principal treatment options.

Urticaria: Selected Highlights and Recent Advances

Donald A. Dibbern, Jr

The most important part of the diagnostic evaluation of urticaria remains a comprehensive and detailed history and physical examination, supplemented with limited laboratory testing. Although acute urticaria has been relatively well understood for some time, significant and important recent advances in understanding the pathogenesis of chronic urticaria are beginning to provide insight in this challenging field, notably the identification of many patients
with an autoimmune etiology. Although some progress has been made at improving symptomatic control of urticaria, further research and discovery are necessary before there is an effective impact on the underlying course and natural history of this condition.

Insect Sting Allergy
David F. Graft

Insect sting allergy has served as an excellent model for the allergic process over the past century. In particular, during the last 30 years, a new form of diagnostic testing and treatment with venom has been one of the great success stories in the entire field of allergy. Venom immunotherapy reduces the risk of recurrent life-threatening reactions from about 60% to less than 2%. Progress and further questions continue with a search for a definitive diagnostic test that more accurately predicts which patients are at risk for future reactions, and defines which patients can stop venom immunotherapy and which ones need to continue treatment.

Drug Hypersensitivity
Roland Solensky

Drug hypersensitivity reactions are those adverse drug reactions that are mediated by an immunologic mechanism. A thorough history is essential in identifying the type of drug reaction a patient previously experienced. Among antibiotics, immediate-type allergy may be accurately diagnosed by means of skin testing only for penicillins; however, at the time of this writing, an essential penicillin skin test reagent is temporarily commercially unavailable. The extent of allergic cross-reactivity between penicillin and other beta-lactams varies depending on the type of beta-lactam. In addition to addressing the approach to patients with reactions to beta-lactam and sulfonamide antibiotics, this article reviews reactions to local anesthetics and aspirin/nonsteroidal anti-inflammatory drugs, as well as the role of desensitization and graded challenge.

Erratum

Index