

Preface

## Immunology for the rheumatologist



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*Guest Editor*

Over the past century, immunologic responses have been investigated in great detail, and our understanding of both innate and adaptive immunity has increased greatly. Our greater understanding of basic immunology has clearly led to an improved understanding of the pathophysiology that occurs in rheumatic disease. Indeed, many of the advances in immunology have come about as a result of investigations into the pathologic mechanisms at work in rheumatic disease. Moreover, in the latter two decades of the twentieth century, the pace of discovery in immunology, as in biology generally, has increased logarithmically.

During the past decade, dramatic leaps in our understanding of the basic pathophysiology of the rheumatic diseases have led to the development of new agents for the treatment of rheumatic disease. Ranging from small molecules to whole antibodies targeted to very specific proteins, rheumatic disease therapy has changed radically. Moreover, because of the effectively targeted nature of newer therapies, consideration of novel toxicities plays a larger role in designing targeted therapies for our patients as well as developing new agents to treat rheumatic diseases. Thus it is more incumbent on the rheumatologist to understand the basics of immunology.

In this issue of the *Rheumatic Disease Clinics of North America*, elements of the innate immune system are covered in several articles devoted to the role of complement, vascular endothelium, phagocytes, and small molecule mediators of inflammation and anti-inflammation in the immune response. Dendritic cells are critical to the transition from innate to adaptive immunity, and their function is covered here as well. Advances in our understanding of the cells of the adaptive

immune system—both T cells and B cells—are dissected by experts in the area. The growing understanding of genetics and rheumatic disease, an area that promises to grow by leaps and bounds, is also described.

Clinicians who attempt to design a course of therapy for patients with rheumatic disease must understand the processes that lead to tissue injury in rheumatic disease. In the future, new therapies for rheumatic disease will be developed; an understanding of how these therapies can be added to and complement existing therapies—as well as an understanding of their toxicities—can only be attained by knowledgeable clinicians with an understanding of the underlying pathophysiology. We have designed this issue of *Rheumatic Disease Clinics of North America* to assist clinicians in achieving this understanding.

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