

Immunology in Medicine

A comprehensive guide to
clinical immunology

E. J. HOLBOROW *and* W. G. REEVES

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clinical immunology

Edited by

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ACADEMIC PRESS . London

GRUNE & STRATTON . New York

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Foreword

It is nowadays widely recognized that the activities of the immune system not only protect against microbial invasion and maintain the integrity of higher organisms, but that exaggeration or aberration of these activities can lead to disease. Much of the knowledge on which this recognition is based has been gained only within the last twenty years, and its application in medicine is even more recent. Although concepts in immunology are by no means static, and the mechanisms whereby the immune response is regulated are still far from clear, the use of an immunological approach has produced plausible experimental models of and possible explanations for a wide variety of human disease processes whose pathogenesis was previously obscure. In some instances, the explanations have proved nearly enough correct to guide therapy or even to indicate new therapeutic approaches. In others, the application of immunological techniques has suggested that immunological factors may play a part in production or control of the disease processes but has left their aetiology tantalizingly unsolved, and has revealed *inter alia* that there is still much to learn about fundamental aspects of the immune response, in respect not only of the part played by lymphocytes but also by mononuclear cells, granulocytes and the complement system. In others still, immunological investigations, even when negative, are important for differential diagnosis.

Because the ramifications of immunology are very wide, and the relevant primary information or review articles are scattered throughout many journals, clinicians, pathologists and students badly need critical compilations of existing knowledge. In a rapidly expanding subject, it is difficult to decide when is the right time to make such a compilation, but to my mind, the present is as near to a nodal point as is likely to occur in the foreseeable future. Clinical immunologists, during the last year or two, have reached a fair degree of agreement about what should be their scope and function, and good manuals have been published lately describing most of the basic techniques in their armamentarium. "Immunology in Medicine" sets out to give an account of the relevance of immunological concepts and of information obtained with these techniques in the whole field of clinical practice, using language which is intelligible to the non-specialist and attempting to assess critically the

significance of the observations described. Insofar as these have implications for treatment, this is also indicated. The editors and their fellow authors have succeeded in their aim. Because they write from practical experience, the information which they provide has been predigested sufficiently to inform rather than to confuse the reader. Nevertheless, plenty of facts and raw data are included when these are appropriate, backed up by suitable references to the literature. Although this is a multi-author book, the editors have avoided serious overlap or repetition. The volume is large, but so is its subject matter, and it can properly be regarded as a magnum opus.

April, 1977

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Preface

"Immunology in Medicine" is primarily designed for the practising clinician, be he physician, surgeon or pathologist. The large majority of doctors in practice today escaped any specific training in immunology and many find its unfamiliar jargon and growing complexity formidable. Books abound on the more fundamental and specialized aspects, but there is a dearth of texts which communicate the practical importance of immunological developments across the breadth of clinical medicine. Twenty-three of the 34 contributors to this book are actively involved in day-to-day problems of medical care as well as contributing to immunological advances in their own field.

In an initial chapter we have attempted to give an overview of immunology: its history, jargon, cardinal features and mechanisms. The following eight chapters review the important basic aspects and the highlighted keywords in the general index refer back, predominantly, to this section for important definitions. Chapters 10–12 discuss the means by which immunological mechanisms cause disease, with particular emphasis on auto-immune processes in Chapters 11 and 12. Although the basic defect underlying auto-immune reactivity is poorly understood, clinical observation has almost as many clues to offer as have the various animal models which fascinate immunologists.

The traditional *raison d'être* of the immune response—defence against infection—is emphasized in chapters on infective disease and immunodeficiency. The largest section deals with the immunology of individual system disorders and is followed by contributions on malignancy and transplantation. Although therapy is mentioned wherever relevant, the last two chapters categorize the various means by which untoward immunological responses may be controlled. Apart from improved methods of diagnosis and increasing knowledge of mechanisms, the immunological manipulation of disease processes offers an exciting prospect for the future. Various non-pharmacological manoeuvres have already proved successful and the growth of disease-specific or antigen-specific treatment will add significantly to the skills required of the clinical immunologist in the future.

Guidelines and training programmes are now established for the various personnel necessary for the pursuit of clinical immunology, i.e., physician,

pathologist, technologist and non-medical scientist.¹ We hope that this book will prove of value to each of these. Little space has been devoted to the finer details of laboratory technique which are covered by several recent publications.^{2, 3, 4}

The complexities of producing and collating a multi-author work such as this are exponentially related to the number of authors involved. We owe a special debt to our wives and families for their acceptance and support of the role of immunological medicine within the domestic scene.

March, 1977

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