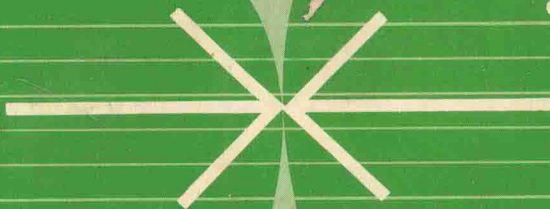


CLINICAL IMMUNOBIOLOGY

EDITED BY

Fritz H. Bach
Robert A. Good



Volume 3

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Clinical Immunobiology

Edited by

VOLUME 3

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Clinical Immunobiology

VOLUME 3

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Preface

Physicians, these days, are being continually bombarded with new information from the burgeoning science of immunobiology. Some of this must be translated into the pragmatic analysis of sick patients; the physician must use and interpret immunological tests that are new and sometimes confusing. Since many of the methods used in evaluation of a patient's immunological status have been described only recently in a scientific and clinical literature that is highly dispersed, the student or physician may not understand these new tools as well as he would like. We have attempted in this volume to provide some of the essential information that can help in the elucidation of immunological mechanisms that are of importance in a wide variety of diseases and that have focused attention on methodological requirements for careful analysis of immunocompetence in the patient. This is a complex and difficult subject. It is this need that has persuaded us, in this third volume of *Clinical Immunobiology*, to depart somewhat from the format of the first two volumes. Rather than cover exhaustively a few areas of current interest in clinical immunobiology, we have asked a larger number of contributors to discuss a variety of methods used for assaying the immune status of an individual.

The emphasis we intended was to attempt to provide the reader, first, with something of a background of the issue to which the clinical test would be applied; second, to give in broad outline the methodological procedures used in the analyses without stressing cookbook-like details; third, to give some examples of the kinds of data that can be generated with the procedures used and thus to provide guidelines for interpretation of the tests; and, fourth, to present a discussion of the value of the immunological test procedures in differential diagnosis and analysis of diseases; further, to discuss where possible the usefulness

of these procedures in prognosis of disease and the consequences of immunological manipulation undertaken for treatment or prevention of disease.

Whereas it would have been desirable to describe in this one volume all the immunological test procedures currently in clinical use, two factors made this impossible. First, to avoid inordinately long delays for contributors of some of the articles included in this volume, we felt we should go to press even though not every article we had solicited had been submitted. Further, certain test procedures have not yet been established as routine for the clinical laboratory, and we felt that these were better presented in a subsequent volume of *Clinical Immunobiology* following our usual format of having two or more articles discussing the same general topic in order to give sufficiently broad consideration. An example of the latter need is the study of the enormously important area of enumeration of the different classes and subclasses of lymphocytes. We felt that this area deserved a series of articles dealing with various methods of identification and their interpretation. Another subject which could have been included in greater detail in this volume is histocompatibility typing. We have promised in prior volumes to treat this subject at an early date. Advances in this field, especially the association of histocompatibility with disease, are exceedingly important and are becoming a major concern to the physician. This subject will be dealt with in broad context in Volume 4.

We hope and expect that a consideration of the several techniques presented here will aid the student of medicine, the practitioner as well as the basic immunologist, in formulating further questions of both basic and clinical interest in the context of immunobiological disturbances in disease. Methods used to quantitate both normal and pathologic immunoglobulins and their subclasses and metabolism, the means used to test cell-mediated immunity *in vitro* and *in vivo*, and analyses of the products of activated lymphocytes are areas which already must be faced by many clinicians almost every day. So it is also with the assessment of allergic states, the need to consider the quantitation of IgE, and the measurement of allergen-specific IgE antibody. Analyses of autoantibodies and rheumatoid factors, especially in lupus, rheumatoid arthritis, and hematologic disorders, require methods that must be understood by most general practitioners, internists, and pediatricians. Quantitation of complement and the components of the complement system becomes ever more important in clinical medicine as the complement system and its primary and secondary deficiencies are being defined. These are all addressed in the present volume. The chapters on evaluation of neutrophils and their function, and an introduction to

means of assessing the major histocompatibility system in man should be of increasing importance. Although they have not yet reached the point of definitive diagnostic value, studies of tumor-associated antigens are of importance in following the results of cancer therapy and in detecting at an early stage recurrences of certain malignancies.

Thus, in this volume, we present a discussion of many methods and attempt to evaluate the clinical usefulness of a wide range of immunological methodologies. We hope and trust that this volume will help medical students, internists, pediatricians, and surgeons to understand the immunological methodologies they must call upon with increasing frequency. By understanding these methods and by recognizing their values and limitations, we anticipate that their use can be increased and their applications made most appropriate to needs. We must hope that this volume, focused on immunological methodologies, will fill a need for all students of medicine and encourage the continuing expansion of the already great contributions of immunology to clinical discourse.

FRITZ H. BACH
ROBERT A. GOOD

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