

Immunopathology of the Skin Labeled Antibody Studies

Edited by

E. H. BEUTNER, T. P. CHORZELSKI,
S. F. BEAN and R. E. JORDON



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Foreword

IN THE PAST DECADE immunopathology has moved from the research laboratory into clinical dermatology. Immunological diagnostic procedures are now in daily use. In the diagnoses of bullous diseases and lupus erythematosus, immunofluorescent tests are complementary to histopathologic studies and are of approximately equal value.

Originally, immunologic research was performed to assist us in understanding pathophysiology. The results of this basic research has been the development of diagnostic immunologic procedures. Aside from their diagnostic significance, these procedures may, in addition, provide valuable therapeutic and prognostic information.

The dermatologist who desires to provide the best possible care for his patients must be aware of the recent progress in immunodermatology. This field has moved rapidly forward and is no longer of only research interest; it has clinical impact. This rapid progress will undoubtedly accelerate and it is imperative clinicians keep abreast of recent developments. For those who received their training prior to this rapid accumulation of immunologic data, a basic reference work on the immunopathology of the skin fulfills a definite need. This book is timely; it contains almost everything the clinician needs to know about the subject. Emphasis is placed on immunofluorescent diagnostic procedures and on the fundamental aspects of the immunopathologically mediated skin diseases.

JOHN M. KNOX

STEFANIA JABLONSKA

Warsaw, October 1973

Introduction

PART I OF THIS BOOK deals with "clinical studies" of the immunopathology of the skin because this book is intended primarily for clinical dermatologists. For those interested in laboratory work Parts II and III include detailed descriptions of established immunofluorescent staining procedures and of other immunologic methods that are of diagnostic value as well as reviews of some rather promising findings that have been made with the aid of these and related methods.

By way of background the initial breakthrough in the type of immunodermatologic studies described in this book was provided by immunofluorescent studies on the immunopathology of two bullous diseases, pemphigus and bullous pemphigoid. The basic findings in these diseases were reviewed in detail in a monograph on *Autosensitization in Pemphigus and Bullous Pemphigoid* by E. H. Beutner, T. P. Chorzelski and R. E. Jordon (1970) and are summarized briefly in this book (Chapter 18). These findings together with the demonstration of deposits of immunoglobulins and complement components at the dermal-epidermal junction in lupus erythematosus (Chapter 7) have stimulated immunofluorescent studies of a number of dermatoses. Other diseases in which characteristic immunologic hallmarks have been found to date include dermatitis herpetiformis and cicatricial pemphigoid. Some preliminary findings have been reported in lichen planus, vasculitis, scleroderma, the porphyrias and psoriasis.

It should be stressed that the immunofluorescent findings are of two types, those in which epithelial autoantibodies are both demonstrable in the serum and are fixed in vivo and those in which immunofluorescent studies of skin biopsies yield characteristic Ig and/or complement deposits of unknown specificity. The first group includes pemphigus and bullous pemphigoid. Most other dermatoses considered in this book fall into the second group. The combination of relevant immunologic findings in the serum and in skin biopsies found in the first group afford useful analytic and reliable diagnostic techniques. Studies of these diseases serve as helpful models for investigations on other dermatoses with distinctive immunopathologic changes.

STEFANIA JABŁOŃSKA

Warsaw, October 1973

Preface

THIS BOOK represents a first attempt to organize into a subsdiscipline the clinically relevant research, methodologies and clinical experience with studies of immunodermatology. At present this subsdiscipline deals primarily with immunopathologic and immunohistologic studies of the skin. It centers on the use of defined immunofluorescent staining for studies of bullous diseases and certain collagen diseases. The reproducibility of findings and more specifically the use of defined immunofluorescent methods necessary for achieving reproducible results constitute a prerequisite for the meaningful studies of the diseases under consideration.

It took half a century to elaborate the subsdiscipline of the histopathology of the skin. The immunohistology and immunopathology of the skin will probably prove to be even more difficult to elaborate to a comparable degree of sophistication since the quantitative serology, immunochemistry and the defined immunofluorescence which is derived from them are rather demanding disciplines in and of themselves. However, the efforts required to establish reproducibly defined test systems seem justified since they already appear to be fruitful in terms of diagnosis and management of bullous diseases and collagen diseases.

It must be kept in mind that immunofluorescent tests of the type described in this book when performed by inexperienced workers frequently lead to misinterpretations and thus *can do more harm than good for the patients* whose specimens are examined. To use these methods successfully the laboratory worker should have about half year of training in immunology and immunodermatology. Since the number of cases of the diseases in which the methods described in this book are limited and the prerequisites for the proper performance of the indicated immunodermatologic studies are rather demanding these studies should be performed at large institutions that have the necessary trained personnel, resources and experience to do the work properly.

To elaborate and evaluate even a single fully documented set of immunodermatologic test procedures may require the better part of a decade. The aim of the editors and contributors to this book is to strike a middle ground between the rigorous discipline of laboratory work required to lay a firm foundation for each test system and the less rigorously controlled exploratory work necessary to discover new potential uses of immunofluorescence and other immunologic methods for the diagnosis. The book is organized in such a way as to stress which procedures are of proven value and which findings are of an exploratory nature. The hope of the editors is to

lay a firm but not a restrictive foundation for the subdiscipline of immunodermatology. The objective is to try to maintain and increase the value of immunodermatology in the diagnosis and management of dermatoses with immunologic hallmarks.

ERNST H. BEUTNER

Buffalo, October, 1973

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The preparation of this book would not have been possible without the diligent and devoted secretarial and editorial work of Christine Alsford, Nina Birdsall, Lillian Wouk, Krystyna Moskalewska, Ewa Maciejowska, and Gloria Griffin.

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Labeled Antibody Studies

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Clinical Studies

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