Book Reviews

A. A. Benedict (ed.) Avian Immunology
Proceedings of an International Conference
held in Hawai, 1977
Plenum, New York 1978
XVI + 408 pp., illustr.; US $ 39.50
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Two spectacular discoveries helped to start the modern development of immunology two decades ago, namely B. Glick’s discovery of the importance of the avian bursa of Fabricius for antibody production and that of Jaques Miller of the immunologic function of the thymus. The uniqueness of the avian bursa made ‘avian immunology’ an important and exciting branch of science. In the present volume all aspects of avian immunology are expertly discussed. This volume is warmly recommended for thorough study.

Paul Kallós, Helsingborg

R. S. Schwartz (ed.):
Progress in Clinical Immunology, vol. 3

The present volume contains six timely and stimulating reviews of immunologic phenomena with clinical relevance. Cheson, Cumutte and Ba-bior elucidate the molecular mechanisms of the oxidative killing of microorganisms in neutrophil leukocytes. The importance of the defective neutrophil function in the Chediak-Higashi syndrome is also discussed. Rochelle Hirschhorn contributes a superb review of the defects of purine metabolism in immunodeficiency disease. She stresses that three enzyme defects are known at present, occurring in patients with immunodeficiency disorders, namely lack of adenosine deaminase, nucleoside phosphorylase and transcobalamin II. The two first mentioned enzymes are involved in the purine salvage pathway, the third is necessary for the transport of vitamin B12 into cells. Of course, it is most important to thoroughly investigate the relation between the enzyme deficiency and the immune disorder. All possible aspects of this connection are lucidly and expertly discussed in the present review. Parkman summarizes in a concise review the results of treatment of immunodeficiency diseases by organ transplantation. He outlines the prerequisites for the success of this delicate therapeutic approach. In his opinion ‘precise determination of the immune defect is necessary to determine the most effective form of transplantation’. Patients with significant T cell defect, e.g. primary thymic defect (di George’s syndrome), with partial T cell defects or with ‘thymic’ severe combined immunodeficiency ‘may benefit from a fetal thymus transplant’. The transplantation of histocompatible bone marrow should be restricted to patients with absent or abnormal lymphoid stem cells. In his review of the clinical immunology of corticosteroids, Schreiber stresses that in spite of extensive clinical use of these hormones since 30 years their mode of action is still unknown. Some recent findings according to which hydrocortisone decreases macrophage chemotaxis and bactericidal activity and suppresses the capacity of macrophages to recognize IgG and/or C3 coated cells, are promising and open up
new avenues for future research. However, no spectacular progress has been made since Dougherty reviewed the very first observations 25 years ago (Progr. Allergy 4: 319, 1954). Corticosteroids are most frequently and most successfully used systemically in the treatment of asthma and topically in that of allergic dermatitis and contact eczema. These are not adequately discussed in the present review. It should be stated expressively that the clinical use of glucocorticoids provides an effective symptomatic treatment, not a cure. The author rightly recommends restrictive use of these hormones and stresses that long term therapy may be harmful. One of the untoward effects is enhanced susceptibility for infections. This may be a direct consequence of the immunosuppressive (e.g. antiinflammatory activity, impairment of macrophage function) effect of these agents. Strom, Lundin and Carpenter review the role of cyclic nucleotides – cAMP and cGMP – in lymphocyte activation and function. This is a very important review, which certainly will be perused by all immunologists. The last review by T. A. Waldmann and S. Broder provides a complete and masterful summary of the present knowledge of the role of suppressor cells in the regulation of the immune response. As the authors stress, suppressor cell systems ‘have been implicated in virtually all of the immunologic regulatory mechanisms that are recognized’. Suppressor cells play a decisive role in the termination of different immune responses, in immune tolerance, immunodeficiency disorders and autoallergic diseases. All modalities of specific and non-specific suppression are thoroughly and expertly discussed. Thus, the third volume of ‘Progress in Clinical Immunology’ has to be warmly recommended.

Paul Kallós, Helsingborg

H. O. McDevitt (ed.): Ir Genes and la Antigens

The main question, if the la antigens are really the molecules mediating Ir gene effects, is still unanswered. The present volume contains the Proceedings of a Workshop and bears witness of the great activity in this important field of immunologic research. The papers presented and the excellent summaries of the Chairmen of the sessions of the conference, provide important information and a firm basis for future research.

Paul Kallós, Helsingborg

M. Z. Atassi and A. B. Stavitsky (eds): Immunobiology of Proteins and Peptides-I

Since the beginnings of immunologic research ‘foreign’ proteins have been used as immunogens. The molecular structure, the immunogenic determinants, their recognition by immunologically competent lymphocytes, the production of specific antibodies, their molecular structure and the interaction between them and the immunogen were subjects of investigations since many years. Impressive progress has been made during the last decade, due to the introduction of new methods in protein chemistry. The present volume provides a complete overview of the results of this work and of the problems to be solved. As Kabat points out in his Introduction, the heterogeneity of the antibody response complicated research efforts and the interpretation of results. He stresses the great importance of a new technique, introduced by Köhler and Milstein. They showed ‘that hybrids of a murine B cell
myeloma and a spleen cell from an immunized animal will continue to secrete the antibody formed by the splenic B cell. Such hybrid cell lines can be propagated indefinitely and if injected into mice will produce plasmacytomas. As-cites from such animals contains monoclonal antibody in great quantities, about 5 mg antibody/ml. The use of this method will certainly help to answer many questions. The present volume provides invaluable information and has its given place in libraries and on the shelf of research workers. Future volumes are awaited with great expectations.

Paul Kallós, Helsingborg


The present volume is a unusually reach source of invaluable information. It contains no less than 11 timely and expertly written reviews covering areas of molecular immunology which are in the center of interest. Leslie and Martin deal with the ‘Structure and function of serum and membrane IgD’, Fair and Krueger with the ‘Analysis of bi-clonal immunoglobulin’. Edmundson, Ely and Abols review the ‘Conformational flexibility of immunoglobulins’, Metzger the recent contributions concerning the ‘Effect of antigen on antibodies’. The review by Ohanian, Schlager and Borooos concerns the ‘Molecular interactions of cells with antibody and complement’ especially the influence of metabolic and physical properties of the target on the outcome of the humoral immune attack. Hugli reviews recent work concerning the chemistry of serum anaphylatoxins. ‘Hapten-sandwich labeling of cell surface antigens’ is reviewed by Wofsy, Henry and Commissulí, ‘Human DR. (Ia-like) antigens’ by Perrone, Allison and Pellegrino. Hunter, Mole and Bennet discuss lucidly the molecular structure and interrelationship of murine T-cell surface antigens. Braciale, Ada and Yap con tribute a unique review entitled ‘Functional and structural considerations in the recognition of virus-infected cells by cytotoxic T-lymphocytes’. The last review by Decker and Marchalonis enlightens the molecular events in lymphocyte activation, especially the role of nonhistone chromosomal proteins in regulating gene expression. Space does not allow to discuss these important reviews in detail. The volume maintains the high standards of the previous volumes and has to be warmly recommended. Paul Kallós, Helsingborg

P. A. Miescher, L. Bolis, S. Gorini, T. A. Lambo, G. J. V. Nossal and G. Torrigiani (eds):
The Menarini Series on Immunopathology, vol.1
Proceedings of a Symposium, Cremona, Italy, 1977
Miescher states in his Preface that ‘the Menarini Foundation in collaboration with the WHO, has decided to further international cooperation in the field of medical research by organizing international symposia’. This book deals with the Proceedings of a symposium on ‘Organ-specific Autoimmunity’. This rapidly expanding and important field of experimental and clinical immunology has been systematically discussed by outstanding research workers and clinicians in 5 sessions at the symposium, namely ‘Organ-specific autoimmunity’, ‘Autoimmune reactions in infectious diseases’, ‘Receptors as targets for autoantibodies’, ‘The relevance of genetic factors in autoimmunity’ and ‘Pathogenic mechanisms in autoimmune diseases’. The papers presented provide a brief but complete overview of the entire field. The last chapter by J. M. Roitt, is entitled ‘Future prospect for research’. His uniquely profound insights into this field, to which he and his coworkers made basic contributions, make this chapter very stimulating and important. Roitt outlines many open problems concerning the identification, etiology, pathogenesis and treatment of autoimmune disorders and suggests new approaches to their solution. Thus, this is an important and thought-provoking book, which should be perused by research workers and clinicians as well. 1958-1977 Dr. Miescher organized seven ‘International Symposia on Immunopathology’ and edited their proceedings. There is no indication if the Menarini Symposia will replace this well known and widely appreciated series. Paul Kallós, Helsingborg

J.-F. Bach (ed.) Immunology


This comprehensive essay edited by Professor J.-F. Bach seems to be the textbook of choice for advanced courses in immunology, both for medical and graduate students, and for physicians with some experience in this complex and rapidly developing field. It impresses by the amount of facts and hypotheses presented. Most aspects of modern immunology are described, often in meticulous details. The general plan of the textbook follows six subdivisions: the organs and cells involved in the immune response, the chemistry of immunologically active compounds, the types of immune response, the cellular basis of antibody production, genetic aspects of immunity, and the review of the pathologic substrates of immune reactivity. Thus, both basic and applied immunology are covered, and cellular and serological reactivities are presented in a didactically successful synthesis. Only few topics could have been dealt with with more emphasis; e.g., the discussion of the phylogeny of the immune system may have granted a special section instead of the interspersed discussions, and more may have been written on lymphokines. On the other hand, the chapters on phagocytosis, nonspecific immunity, and clinical aspects of immune reactivity give this text a broad perspective. The excellent micrographs and diagrams add to the readability of the text. The few not major but still significant criticisms to be made concern the presentation of the information. The English translation presents formulations which may lead to ambiguity or even misinterpretation by the unexperienced reader. Despite the very high scientific
standard of all the contributions to this volume, the ability to confer knowledge, in simple, concise language to the reader seems to vary significantly among the authors, often the very detailed accounts may preclude the understanding of principles and the acquisition of an overview by the beginner in immunology. Finally, information on one subject should be presented as a unit; this would make it so much easier and faster to look things up.

Boris Albini, Buffalo, New York

G. Möller (ed.)
Immunological Reviews, vol. 41
Immunoglobulin E
Munksggard, Copenhagen 1978
314 pp., fig., tab.; Danish Crowns 192, 40
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In 1973 Ishizaka and Dayton published the proceedings of a symposium devoted to IgE. The present volume shows clearly that impressive progress has been made since then. The Editor succeeded in bringing together a number of informative and stimulating reviews by leading authorities. Dorrington and Bennich review the ‘Structure-function relationships in human immunoglobulin E’. Ovary et al. contribute an excellent paper on the ‘Regulation of IgE in mice’. Ellen Jarrett contributes a review entitled ‘Stimuli for the production and control of IgE in rats’, a review by Bennich et al. deals with rat IgE too, and describes new, sophisticated radioimmunoassays and their importance for the evaluation of basic serum IgE levels and the IgE antibody response in rats. A most interesting experimental approach of great heuristic value to the problem of the pathogenesis of allergic diseases is presented by D. H. Katz in his review ‘The allergic phenotype: Manifestations of “allergic” breakthrough and imbalance in normal “damping” of IgE antibody production’. K. and T. Ishizaka discuss lucidly and critically the ‘mechanisms of reaginic hypersensitivity and IgE antibody response’. Their review has important clinical implications. Ö. and I.-L. Strannegård summarize their important results and views concerning ‘T-lymphocyte numbers and function in human IgE-mediated allergy’. It is probable that a ‘genetically determined defect in some or all of T-lymphocytes which makes them more vulnerable to the inhibitory action of cAMP’ plays a decisive role for the pathogenesis of allergic diseases. The role of mast cells and basophils in allergic conditions is expertly discussed by Sobotka et al. and by Metzger. The timely problems of the ‘Interaction of polyclonal human IgE with protein A from Staphylococcus aureus’ are excellently reviewed by Johansson and Inganäs. The review by Lee and Sehon deals with the ‘Suppression of reaginic antibodies’. Finally, there is an important contribution by Buckley and Becker on ‘Abnormalities in the regulation of human IgE-synthesis’. Needless to say, this excellent book is a ‘must’ for research workers and clinicians as well.

Paul Kallós, Helsingborg

N. Selwood and A. Hedges Transplantation Antigens – A Study in Serological Data Analysis
According to the authors there is an ‘urgent need to resolve the antigen systems of the white blood cell’. They state explicitly that the present book is not a ‘work of reference’ on HLA, or on the many approaches to the analysis of raw serological data, whether they relate directly to HLA or not. They present a lucid and comprehensive review of the development and application of the numerical taxonomic approach to the specific problems of HLA analysis. This approach seems to be simple and fruitful. It is compared with some other numerical and statistical methods. The authors stress that their method can also be employed in other fields of serology. The monograph is of value for serologists. Paul Kallós, Helsingborg