Further Section


Book Reviews

H.G. Kunkel, F.J. Dixon (eds.) Advances in Immunology, vol. 27
The author of the first review in this volume, I. Lindström, showed that rabbits and rats pre-
treated with isolated acetylcholine receptors from the electric eel fell ill with signs and symptoms
very similar to those of the human disease myasthenia gravis. The animals form antibodies to
the eel receptors, which cross-react with their own acetylcholine receptors and elicit the disease.
Patients with myasthenia gravis have similar antibodies. The use of isolated and radiolabeled
acetylcholine receptors from human muscle allows the quantitation of these antibodies. This is a
very stimulating review, future work in this field is awaited with great expectations. In the
second review Zinkernagel and Doherty deal with the dual specificity of T cells cytotoxic for
virus-infected cells. Such T cells are specific for virus and for an MHC-encoded cell-surface
antigen. As it is well known, the authors discovered this phenomenon in investigations on
lymphocytic choriomeningitis. They show now that the same phenomenon occurs in many other
virus infections and in other systems, e.g. TNP-coupled cells, too. In a comprehensive review
McKenzie and Potter account for the lymphocyte surface antigens of the mouse. The mouse is
the most used experimental animal in immunologic research. It is, therefore, sure that this review
on murine lymphocytes will be widely appreciated. The review by Weller and Goetzl concerns
the function of eosinophil leukocytes in certain immunological reactions. This in depth review
will also be helpful. It accounts for the production, properties and general function of these cells.
Then the involvement of eosinophils in different immunological responses and their role as
effector cells in helminthic infestations is dealt with in a stimulating way.
Paul Kallós, Helsingborg

H.G. Kunkel, F.J. Dixon (eds.) Advances in Immunology, vol. 28
The present volume contains five important reviews. Tada and Okamura treat in depth the role
and immunoochemical properties of antigen-specific T-cell factors that augment or suppress the
antibody response. There are many pathways for T-B cooperation and it is not yet possible to
integrate the findings of different investigators. This excellent review will certainly help to
coordinate future efforts in this important field. The chapter by Theofilopoulos and Dixon is
devoted to the formation, fate, biologic properties, detection, isolation and assay of immune
complexes and has great clinical importance. Winchester and Kunkel discuss thoroughly and in a
most stimulating way the properties and role of the human la system. Morrison and Ryan deal
with ‘Bacterial Endotoxins and Host Immune Response’. Endotoxins are powerful B-cell
stimulators. Their nature and interactions with the immune system are thoroughly discussed. The
last chapter by Mitchell, entitled ‘Responses to Infection with Metazoan and Protozoan Parasites
in Man’ deals with an important and hitherto rather neglected area of immunoparasitology and -pathology.
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Enzyme Defects and Immune Dysfunction
Ciba Foundation Symposium, New Series, No. 68
Excerpta Medica, Amsterdam 1980
IX + 289 pp.; US$ 35.00/Dfl. 72.00
ISBN 90-219-4074-4

The serendipitous discovery of adenosine deaminase (ADA) deficiency in children with severe combined immunodeficiency (SCID) by Giblett in 1972 has aroused the interest of immunologists, geneticists and clinicians as well. The proceedings of the first conference on this subject have been reviewed in the Archives (58: 476, 1979). Since then great progress has been made and is accounted for in the present volume. In a number of children with SCID another hereditary enzyme deficiency, namely that of purine nucleoside phosphorylase (PNP), has been detected. Both of these enzymes play a key role in purine reutilization. ADA deaminates adenosine and 2'-deoxy-adenosine. PNP catalyzes the next metabolic step, namely the phosphorolysis of inosine and deoxy-inosine. Whereas in ADA-deficient children both T- and B-cell functions are severely impaired or absent, the B cells of PNP-deficient cases show little or no dysfunction. The mechanisms by which the enzyme deficiency causes immune dysfunction is poorly understood. Several hypotheses have been discussed and are under investigation. Bone marrow transplantation and/or vigorous therapy with normal red blood cells, containing the enzymes, can restore and maintain enzyme functions and immunological responsiveness. In some cases with primary hypogammaglobulinemia hereditary deficiency of ecto-5'-nucleotidase was detected. In children with severe, life-threatening recurrent infections due to defective phagocytosis and bacterial killing in polymorphs, the lack of another enzyme, namely transcobalamin II, was discovered. This enzyme is of particular importance in transport of vitamin B12. Infusion of fresh plasma and B12 in such cases is able to restore leukocyte function. All aspects of these theoretically and clinically important hereditary enzyme defects were thoroughly discussed. The need of search for new enzyme deficiencies and of further investigations concerning the pathomechanisms involved was stressed. Needless to say, this book is indispensable and will influence research in these important areas for a long time.

Paul Kallós, Helsingborg
The reviews in these volumes are intended for geneticists. The present volume, however, contains a number of excellent reviews which are of great interest for immunologists and, therefore, shall be mentioned here. These are: Watkins: Biochemistry and Genetics of the ABO, Lewis and P-Blood Group Systems; Amos and Kostyn: HLA: A Central Immunological Agency in Man, and Conneal-ly and Rivas: Linkage Analysis in Man. The original literature in these areas is not always accessible and often difficult to understand for immunologists. The present reviews account for their respective area completely and in an easily understandable way. This volume will certainly be consulted and much appreciated by immunologists.

Paul Kallós, Helsingborg

M.J. Manning (ed.):
Developments in Immunology, vol. 10:
Phylogeny of Immunological Memory
Developmental and comparative immunology are most important branches of research. The phylogeny of immunological memory and tolerance have been thoroughly discussed by leading workers at a symposium in Tampa, Florida, in December 1979. The present volume contains the proceedings of this symposium. The evolution and manifestations of immunological memory and tolerance 'from sponges through mammals' have been dealt with. This unique book is indispensable for all immunologists.

Paul Kallós, Helsingborg

S. Thierfelder, H. Rodt, H.J. Kolb (eds.) Immunobiology of Bone Marrow Transplantation
International Seminar of the Institute for Hematology, Munich 1980
Springer, Berlin 1980
XV + 480 pp., 123 fig., 123 tab.; US$ 46.30
ISBN 3-540-09405-9
Transplantation of bone marrow is an important and, if successful, life-saving therapeutic measure. Growing experience in animal models and clinical cases has clarified how the two main risk factors, i.e., graft rejection and graft-versus-host disease (GVHD), can be avoided or at least diminished. This led to a significant rise in survival rate and time. Many of the most experienced and engaged investigators and clinicians participated in this seminar. The study of the proceedings is not only useful, but also very exciting. The acceptance of a marrow transplant depends on its histocompatibility and on the immunocompetence of the recipient. Not only the major histocompatibility complex (MHC) but also minor HC determinants play a decisive role. Conditioning of the immuno-competent recipient can help to overcome HC differences. The methods of conditioning, X-ray irradiation and immunosuppressive therapy (e.g., cy-clophosphamide, azathioprine, the new experimental antibiotic cyclosporin A and corticoste-oids) were thoroughly discussed and the results of their use carefully evaluated. Both irradiation and immunosuppressive drugs involve risks, the schedules used and recommended by different centers must be carefully studied. It is quite clear that leukemic patients should be treated during periods of remission, when their tumor load is low. Transplantation of autologous
marrow gains importance in such cases and was expertly discussed. GVHD is caused by immunocompetent donor-T lymphocytes. They can be eliminated by in vitro cultivation of the marrow before transplantation and/or by treating the transplant with heterologous anti-T sera. The signs and symptoms which allow to identify a beginning GVHD and suitable therapeutic measures to prevent its development were also expertly discussed. The results of animal experiments presented have great general immunologic importance. It is impossible to give more details here. This book must be recommended for thorough study by immunologists and clinicians. The organizers of the seminar are to be congratulated. They also did a splendid job by publishing the proceedings so soon after the conference.
Paul Kallós, Helsingborg