

CLINICAL IMMUNOLOGY

Editors:
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Introduction

Clinical immunology is a biomedical specialty concerned with all diseases, conditions and states of human health in which the immune system is in any manner involved. Clinical immunology had its beginnings about 90 years ago in Pasteur's work on vaccination against rabies and anthrax. The development of vaccines and immunization ensued, and in recent years we have witnessed extensive expansion of knowledge related to antibodies, antigens, allergies and many other immunologic phenomena. Investigation of the body's ability to distinguish self from nonself led to the rapid development of cellular immunology. Immunogenetics and immunotherapy made successful organ and tissue transplantation possible. The discovery of the multitude of autoantibodies and immune complexes and of the role of complement and other mediators of inflammation led to a marked change in our understanding of human disease. The development of radioimmunoassays and the discovery of oncofetal antigens and antireceptor antibodies completely changed the diagnosis of many illnesses and gave insight into their pathogenetic mechanisms. Consequently, new therapeutic modalities are being made available.

The scope of clinical immunology involvement in other biomedical fields cuts across the established lines of clinical practice. Obviously, clinical immunology is not, or not only organ-related. Indeed, this is the main reason why there is difficulty in gaining understanding and acceptance of clinical immunology as an independent specialty. Furthermore, a tremendous accumulation of sophisticated knowledge in basic immunology, which only now is being applied to the diagnosis and treatment of human disease, is making it important for specialists in immunology to communicate closely with the rest of the medical community. These are the main reasons why better avenues of communication between clinical immunologists and between the members of other biomedical specialties became timely. The decision of the International Union of Immunological Societies to organize the International Conference on Clinical Immunology reflected well the rising significance and rapidly expanding scope of clinical immunology. The fact that the first conference on clinical immunology was held together with the International Congress of Immunology expresses the desire of the organizers to emphasize close ties and inter-relation of clinical and general immunological sciences. We hope that the first International Conference on Immunology will serve as a stimulus to organize similar conferences in the future.

W. Pruzanski

M. Seligmann

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**HENRY G. KUNKEL MEMORIAL
LECTURE**

INTRODUCTION TO THE HENRY KUNKEL MEMORIAL LECTURE

MAXIME SELIGMANN

Chairman of the Clinical Immunology Committee of I.U.I.S.

The Clinical Immunology Committee and the Council of the I.U.I.S. have decided to have this year, at the end of this conference, a Henry Kunkel Memorial Lecture. This seemed appropriate since the untimely death of Henry occurred after our last congress but mainly because he was one of the very few outstanding immunologists who devoted most of his research to human immunology. For many of us his work is a model of what clinical immunology should be.

Henry Kunkel was born in New York City and spent his entire scientific career in the Rockefeller Institute where he was a professor and senior physician. He has made extremely important contributions to the fields of basic and clinical immunology and of genetics. His initial research work was in the area of liver diseases, with the first description of primary biliary cirrhosis and of the progression of acute to chronic hepatitis. These early studies led him to two crucial areas of research. One was systemic lupus erythematosus (SLE) and rheumatoid arthritis: he showed that rheumatoid factor was a 19 S antibody which was complexed with 7 S IgG in the serum; he described many of the important autoantibodies in SLE and he greatly contributed to the establishment of the concept of immune complex diseases. His other masterpiece of work relates to myeloma proteins. He showed that they were closely related to normal immunoglobulins and that they displayed individual antigenic specificity. This avenue, together with the pioneer work of Jacques Oudin (who also died recently) led to the concept of idiotypes and Kunkel first described cross-idiotypic specificities related to antigen binding. The definition of the IgM class and of the four human IgG subclasses primarily ensued from his laboratory. The study of the homogeneous myeloma proteins enabled him to work out the genetics of human immunoglobulins. He has also provided essential knowledge on the complement system and the genetic linkage of C2 to the major histocompatibility complex. In the last period, his work gradually shifted to cellular immunology with important studies on membrane-bound immunoglobulins of normal and leukemic lymphocytes and on the immunoregulatory functions of T lymphocytes.

The outstanding accomplishments of Henry Kunkel were based upon precise scientific observation and rigorous investigation at a basic level with a constant look out for possible clinical implications. He initiated imaginative and creative trails of research at the precise time when it appeared ripe and promising. He provided new insight into the most basic aspects of immunology and genetics through the in-depth study of human diseases and applied the basic findings and concepts to the understanding of the pathogenesis of several human diseases. The third floor of Founders Hall was for many of us a place of intellectual stimulation and excellent friendship. Henry Kunkel has many trainees and friends who gained much from his knowledge and advice. Among them, Peter Lachmann had close links with him. I know that Henry admired his work and liked him very much. This is the reason why we have chosen him to give this memorial lecture.

HENRY KUNKEL MEMORIAL LECTURE - EXPERIMENTS OF NATURE. THE IMPACT OF MEDICINE
ON IMMUNOLOGY.

PETER J LACHMANN

MITI Unit, MRC Centre, Hills Road, Cambridge, CB2 2QH, UK.

Immunology grew up in the late nineteenth century and has developed to a large extent as a medical science, concerned initially with immunity to infectious disease and gradually spreading into many medical fields when it became apparent that the same mechanisms that can confer immunity can, in appropriate circumstances, give rise to tissue damage and to disease. Immunology and Medicine thus have extensive overlapping fields of interest and the two disciplines have strongly influenced each other. However, while it is generally recognised that immunology has made contributions to medicine the reverse side of the interaction, namely the contributions that medicine has made to our understanding of immunology has received much less attention.

This is the topic some aspects of which I would like to explore today, first, to encourage clinical immunologists not to feel inferior to the "mouse doctors" and the "gene cloners" and secondly because it is very appropriate to Henry Kunkel, to whose memory this lecture is dedicated. Henry used human disease as his prime research resource throughout his enormously productive career - and usually by quite simple techniques, he was able to use this resource to advance the science of immunology to a quite extraordinary degree and in several fields. He had a career-long interest in the immunoglobulins originating in his early work on liver disease. His demonstration that in the abnormal proteins found in the sera of patients with multiple myeloma were indeed immunoglobulins, and in most cases normal immunoglobulins, opened the way to the study of the human immunoglobulin molecule by chemical, immunological and genetic techniques, and his laboratory contributed greatly to all of these studies. I will not however discuss any of this work further, partly because it is now well known, and partly because I had no personal involvement in it - and to discourse learnedly of matters one doesn't know about at first hand, though not uncommon, is something of which Henry did not at all approve!

I will instead concentrate largely on examples deriving, to a greater or lesser extent, from studies of the complement system; an area of immunology where Henry Kunkel made contributions but which he treated with some