Clinical Immunology Society: the Early Years 1984–1989

I. An Introduction

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The Clinical Immunology Society (CIS) developed in two broad contexts: (1) as a component of immunology research and education with human relevance, and (2) as a component of clinical medicine, i.e., disease identification, pathogenesis, treatment, and prevention. Indeed, a purpose of the CIS was to bring these two areas closer together. Initial goals included uniting the clinical investigators from the wide array of clinical fields and providing information on scientific and clinical advances. There was also the intent to enhance the framing and scope of immune-based therapies. Conversations were initiated in 1984 to develop a society for bringing together the leadership of the many clinical and laboratory contexts of clinical immunology.

From 1979 to 1984, I had been on the National Advisory Council for Allergy and Infectious Diseases, National Institute of Allergy and Infectious Diseases (NIAID), National Institutes of Health (NIH), the senior advisory group to the NIAID, which met three times each year to review recommendations for research grant awards. In those years, I became acquainted, at least by name and field of interest, with almost all of the leading immunologists in the USA. Many I knew from my own research defining human and murine immunoglobulins in the 1960s, immunology and cancer studies in the 1970s, and description and characterization of AIDS in the 1980s.

The discussions from 1984 to 1986 involved more than 50 immunologists in the USA (Table 1) and with a dozen more

from other countries. The leading relevant organizations were consulted. These included the American Association of Immunology (AAI), the NIH, especially the NIAID, and other health-related organizations.

Initial discussions identified several individuals who became major partners in advancing this enterprise: Noel Rose, Gary Fathman, Max Cooper, and Bernard Janicki. Noel Rose made special contributions and was a cofounder. His experience included AAI committees, advocacy of the American Board of Medical Laboratory Immunology within the American Society of Microbiology, as editor-in-chief of the Manual of Clinical Laboratory Immunology, and as editor of the journal, *Clinical Immunology and Immunopathology*. He shared administrative responsibilities in the first years and has recounted some of the early events (Noel Rose, The inception of the Clinical Immunology Society—see <http://www.clinimmsoc.org/about/history.php>). Gary Fathman was prominent with his knowledge of the emergence of immunology in many clinical subspecialties and his own contributions at this interface. Max Cooper was a leader in both pediatric and fundamental immunology and was en route to becoming president of the AAI. Bernard Janicki was central to immunology communication at the NIH and communication with NIAID leadership.

Clinical Immunology as a Distinct Medical Science

Immunological sciences advanced rapidly from 1950 to the 1980s through laboratory and animal research as well as studies in clinical situations. The latter included childhood and adult immune deficiency states and inappropriate overactivity (allergies and autoimmune disorders) or functions that interfered with a therapeutic goal (such as renal

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Table 1 Participants in the forming of the Clinical Immunology Society (1986)

Steering Committee

John L. Fahey (University of California, Los Angeles—UCLA)
 Noel R. Rose (The Johns Hopkins University)
 C. Garrison Fathman (Stanford University)
 Max D. Cooper (University of Alabama)
 Bernard W. Janicki (National Institute of Allergy and Infectious Disease—NIAID)

Contributors (1985 affiliations)

N. Franklin Adkinson (The Johns Hopkins University)	Dale E. McFarlin (National Institute of Neurological Disease and Blindness)
Robert F. Ashman (University of Iowa)	Henry Metzger (National Institute of Diabetes and Digestive and Kidney Diseases)
Philip W. Askenase (Yale University)	Herbert F. Oettgen (Memorial Sloan-Kettering Cancer Center)
Baruj Benacerraf (Harvard University)	Richard O'Reilly (Memorial Sloan-Kettering Cancer Center)
Claude Bennett (University of Alabama, Birmingham)	Kirk C. Osterland (McGill University)
R. Michael Blaese (National Cancer Institute—NCI)	Charles Parker (Washington University)
Rebecca H. Buckley (Duke University)	Steve Polmar (Case Western Reserve University)
Mary Ellen Conley (St. Jude Children's Research Hospital, Memphis)	Thomas T. Provost (The Johns Hopkins University)
Charlotte Cunningham-Rundles (Mount Sinai School of Medicine)	Robert R. Rich (Baylor University)
Betty Diamond (Albert Einstein School of Medicine)	Fred S. Rosen (Harvard University)
Anthony S. Fauci (NIAID)	David H. Sachs (NCI)
Hugh H. Fudenberg (University of South Carolina)	John E. Salvaggio (Tulane University)
Janis Giorgi (UCLA)	Andrew Saxon (UCLA)
Erwin W. Gelfand (Hospital for Sick Children, Toronto)	Peter H. Schur (Harvard University)
Robert A. Goldstein (NIAID)	William Shearer (Baylor University)
Barton F. Haynes (Duke University)	Richard Stiehm (UCLA)
Gary W. Hunninghake (University of Iowa)	Thomas P. Stossel (Harvard University)
Allen P. Kaplan (State University of New York, Stony Brook)	Warren Strober (NIAID)
Stephan I. Katz (NCI)	Terry B. Strom (Harvard University)
Vicki R. Kelley (Harvard University)	Norman Talal (University of Texas, San Antonio)
Charles Kirkpatrick (National Jewish Hospital, Denver)	Eng M. Tan (Scripps Research Institute)
Susan Krown (Memorial Sloan-Kettering Cancer Center)	Jonathan W. Uhr (University of Texas, Dallas)
Michael E. Lamm (Case Western Reserve University)	Thomas A. Waldmann (NCI)
Lawrence M. Lichtenstein (The Johns Hopkins University)	J. Vivian Wells (Kolling Institute of Medical Research, Australia)
Peter E. Lipsky (University of Texas, Dallas)	G. Melville Williams (The Johns Hopkins University)
Richard R. Lynch (University of Iowa)	Sheldon M. Wolff (Tufts University)
David W. Martin (Genentech)	
Hugh O. McDevitt (Stanford University)	

and other organ transplantation rejection reactions). The AAI was the principal professional society devoted to advancing immunology research. However, it was not prepared to advocate for or to train in the clinical responsibilities. Furthermore, many physician investigators with clinical practices did not attend AAI meetings but found limited immunological kinship in their organ-based clinical specialty meetings.

Medicine is practiced and clinical research is conducted largely in the contexts of specific organ systems such as in nephrology, neurology, and so on; however, the immune system was not regarded in the same light. Allergy and

vaccination were largely empiric fields. The lymphocytes were enumerated in hematology, but their functions were poorly understood. To what organ system do antibodies and gamma globulins belong?

While clinical immunology was advancing rapidly and broadly, it was not well represented in organized medicine. No single medical specialty existed to encompass clinical applications or advances in the many and diverse areas of modern clinical immunology. Allergy was represented by what are now the American Academy of Allergy, Asthma and Immunology (AAAAI) and the American College of Allergy, Asthma and Immunology (ACAAI). Yet, these

organizations represented only a few components (mainly allergy) of the broad array of applications of immunology knowledge in clinical medicine.

Textbooks of clinical immunology and clinical immunology updates and reviews of specific research areas were regularly available. Therapies for immune-related diseases depended on a growing body of knowledge on the structure, functions, and regulatory components of the immune system. Furthermore, research advances on immunoglobulins and antibodies, immune cells, and the cytokines and chemokines and progress in laboratory analyses (e.g., flow cytometry) were utilized in all the individual contexts of clinical immunology. With the concurrent appearance of textbooks and scientific journals devoted to this discipline, a dedicated society could establish a firm core of resources for its advancement as a distinct medical specialty (subspecialty) and as a major component of the science of immunology.

A Precedent Existed in the Development of Clinical Oncology as a Clinical Specialty

Oncology is an example of a new field emerging in clinical medicine. Prior to 1950, cancer therapy was largely conducted by surgery or radiotherapy. Medical specialties provided diagnosis and care but not much treatment. This approach changed in the 1950s with the introduction of methotrexate (and related compounds) for leukemias. The appropriate use of chemical therapeutic drugs required special knowledge and skills, largely separate from surgery and radiology. A new field of clinical oncology was developed to provide appropriate therapy and management of associated toxicity. A new society was formed, the American Society of Clinical Oncology (ASCO), and the need for special training and certification was recognized and special certification in medical oncology was established by the Board of Internal Medicine. The ASCO was separate from the 50-year-old American Association for Cancer Research.

I (John Fahey) was at the National Cancer Institute and attended cancer research meetings in the 1950s and 1960s and observed these developments, which involved many of my colleagues in clinical cancer research. By the early 1980s, it appeared that events similar to those for clinical oncology were taking place in clinical immunology. One of the consequences was consideration of the potential value of an organization that broadly represents all or most aspects of this burgeoning field.

New Immune-Based Therapies

Lymphokines were identified and explored therapeutically. Lymphokine inhibitors were being developed, and bone

marrow (stem cell) transplantation was increasing. Immunological issues had an impact on organ transplantation, and monoclonal antibodies and agents for targeted reduction of specific immune responses were being developed. Immune suppression by chemotherapy was widely used and new forms explored. Immunogenetic information was growing and guiding such therapies.

AIDS

A new and very significant disease, AIDS, had been recognized in 1981 and presented continuing challenges to immunologists. It is a disease of the immune cells, thus emphasizing the existence of a separate organ system. AIDS is chronic, not acute, because of the immune response to the virus. Prevention would require the development of a vaccine that had to be different from those produced previously by microbiologists. No event in recent medical history has so focused attention on the need for a better understanding of the human immune system.

Medical (Clinical) Laboratory Immunology

Largely separate from the microbiology, chemistry, and histology components of laboratory medicine, the clinical (medical) laboratory immunology needed training guidelines and advocacy as an essential component of the patient-related medical response to diseases and therapies. The term, diagnostic immunology, was grossly inadequate and implied a service organization employed to provide infectious disease diagnoses and, hence, indicate desired antibiotic agents. Medical (clinical) laboratory immunology was needed in a larger context to assess immune functions, e.g., needed for a much broader expanse of pathology than just infectious diseases. Clinical laboratory immunology provided disease description and host assessment and especially therapeutic evaluations. It was much more than pathogen identification.

In those days, investigators usually had to make their own reagents. Fluorescent-labeled antibodies to specific cells and cell components were not generally available. Reagents for lymphocyte phenotyping gradually emerged. Assignments to activation, maturation, and functional state began to be proposed. The first 25 CD designations in the CD nomenclature were promulgated in 1984. Flow cytometry added channels and could detect 2, then 3, and more (14) to facilitate study of the cells participating in immunologic aberrations of disease. It was an advance over the 1970s, when human (not murine) T cells were identified and enumerated by their binding of sheep red blood cells. Functional tests were more complex. Some expertise was required

Advocacy for Clinical Immunology—a Social and Professional Responsibility

It has been argued that our nation is largely managed in the context of advocacy and accommodation by and among organizations associated with specific interests (see N. Lemann, “Conflicts of Interests,” *The New Yorker*, August 11 and 18, 2006, and also A.F. Bentley “The Process of Government: A Study of Social Pressures,” University of Chicago Press, 1908). In this context, a society for clinical immunology could function as a resource to promote recognition and support of the field.

Thus, by the early 1980s, there existed an opportunity for clinical immunology to be better defined and advanced in both research and in medical practice by the formation of the CIS. Such an organization could embrace immune-based diseases with either excessive or deficient immune responses, immunogenetics, diagnostic procedures (not just as handmaidens to infectious diseases), and evaluations of therapy effectiveness, and therapeutic toxicities. For such purposes, specialty training in clinical practice as well as research could be enhanced by the Clinical Immunology Society.

Many people put time and effort into bringing the CIS to life, including colleagues who had significant experience in other professional societies and institutions. As expected, there were diverse views on details but these were worked out. Many anticipated having leadership roles; indeed, the official structure provided for many persons to share such responsibilities and make unique contributions.

It was decided in 1986 to give further substance to this effort by organizing the initial Annual Conference on Clinical Immunology. The first full year of function of the CIS was in 1987. In 1988, an administrative structure was established, which focused on specific goals. By 1989, CIS was fully functioning.

Because 25 years has elapsed since the planning and beginnings of the CIS, it seemed that it might be useful to review the initial hopes and plans. Susan Kanowith-Klein, Ph.D., CIS Development Director (1986–1988) and Executive Officer (1988–1995), and I still had records

from 1984 to 1989 (these records have been sent to the administrative center of the CIS in Milwaukee for the archives and for the potential use of future immunological archeologists.) We were able to review them in preparing a more detailed account covering those initial years (see Fahey JL and Kanowith-Klein S. Clinical Immunology Society, The Early Years 1984–1989, II. Preparation and Achievements). This is available on the CIS website.

That broad account presents many activities in the early 1980s that led to the creation of the Clinical Immunology Society. Major issues are identified:

- The clinical impact of new immunology concepts and laboratory developments
- The existence of new immune-based therapies and possibilities for many more
- The absence of medical (clinical) immunology laboratories in most hospitals and the need for training and support for this discipline
- Immunologists from all phases of clinical medicine and pediatrics were consulted.
- The potential impact of the Clinical Immunology Society as an important component of both immunology and medicine
- Establishing the relationship of the new Clinical Immunology Society with already existing societies such as the American Association of Immunology (AAI) and the AAAAI and the International Union of Immunological Societies, as well as with the NIH and, especially, the NIAID
- Exploring the recognition of clinical immunology with the clinical certifying agencies in medicine and pediatrics and of medical laboratory immunology as a discipline essential to clinical practice and research
- Recognition of the many people and institutions involved in these adventures

Not all of our original goals were achieved in those first years. Nonetheless, the medical and research significance of clinical immunology appears to be even greater today, in this new millennium.