Summary of the Conference

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This conference had a relatively unique structure with emphasis on hematology and the two major disciplines of emerging importance in hematology, that is oncology and immunology. The conference brought together outstanding scientists in these two major subdisciplines who frequently meet on separate occasions. The resulting mixture has been a stimulating and informative 5-day meeting. Hematology has played a pioneering role in the rapid scientific developments in these two fields. The cells of the myeloid and lymphoid systems are increasingly appreciated to have in the adult a common progenitor. The important observations, for instance that the cytogenetic abnormality and the molecular genetic abnormality characteristic of chronic myelogenous leukemia can be regularly demonstrated in lymphoid cells, particularly B lymphocytes in the same individual, emphasizes the importance of the interrelationship of these two major organ systems. Therefore, it was appropriate that we spent our first day learning of the rapid developments of the knowledge about oncogenes and the molecular biology of the myelo- and lymphoproliferative diseases.

We went on to consider the rapidly emerging knowledge of importance of stem cell renewal and of growth of cells in vitro and the interaction of these hemato-poietic stem cells with each other as it relates to the biology of malignant diseases. The conference turned then to differentiation. Here, the important lympho-kines which are now becoming available on the basis of molecular biology as pure reagents were reviewed, including some of the new biologies such as interferon, interleukin-2, and interleukin-1. Certainly, the new era in hematology will require our incorporation of these new biologicals into our therapeutic and diagnostic armamentaria. The striking effect of interferon on hairy cell leukemia has certainly stimulated a whole new area of therapeutic research in hematology. These patients have excellent control of the manifestations of the disease despite the fact that the disease is persistent and easily recognized in the patient. This type of control of the malignant process will hopefully be a prototype for the control of other forms of leukemia and lymphoma.

The conference then turned to the natural history and treatment effects in both the chronic and acute myelo- and lymphoproliferative disorders and we heard of exciting new approaches for each of these diseases and new directions for further therapeutic research. It was thoroughly appropriate that we devote the last morning to reviewing the current state of both allogeneic and autologous bone marrow transplantation which was responsible for transforming our views concerning the curability of acute leukemia and transforming our views of the nature of supportive treatment with allogeneic blood cells. There seems little reason to doubt that allogeneic transplant, when available, provides a curative potential for both leukemia and

lymphoma, and the data with the use of autologous marrow in patients who have marrow free of disease provides an exciting new prospect for research. The ability to treat the disease in vitro is a promising technique for sparing the patient and his other vital organs from any side effects from treat-

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ments which might be lethal to the leukemic cells. The exciting new field of treatment of bone marrow in vitro combined with intensive treatment to the host and the reinfusion of the treated marrow is an exciting new prospect for the future.

But the most important observation that I can make about this conference is that there is no doubt that all of our patients with malignancies of the hematopoietic system have access to significant treatment. This treatment is certainly effective for relief of symptoms, for the great majority of patients for prolonging life and it is clear that for virtually every diagnostic category there is a growing fraction of patients who have prolonged survival not necessitating continuing treatment.

The exciting prospect for the future includes

the possibility that we will have long-term control for virtually all patients and we will be able to accomplish permanent cures in a major fraction of patients with these diseases. Perhaps most important, the observations made in the treatment of the hematological malignancies will hopefully generate innovative approaches to the treatment of the common malignancies.