

Introductory Remarks: *Review of Current Status of the Problem*

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The control of acute leukemia constitutes one of the most challenging problems in medicine today. The first production of remissions in children with acute leukemia by chemotherapy in 1947 stimulated the search for more effective agents and for the acquisition of new information concerning basic chemical and pharmacologic questions. A number of anti-leukemic agents have been discovered since then. The principles of *total care* of the patient with acute leukemia, defined at the very beginning of this era of chemotherapy, include supportive therapy for the prevention and control of massive hemorrhage and infections. These still are the most important causes of death in the patient whose leukemia either is no longer under control by chemotherapy or has never been under control.

Investigations in many clinics in a number of countries have yielded information that has increased the effectiveness of the anti-leukemic agents presently available and has led to a restrained optimism, among those who are responsible for the care of patients with acute leukemia, that complete control of acute leukemia can be achieved. Heartening indeed is the survival from 5 to 14 years of 80 children and 21 adults with acute leukemia in Burchenal's collection of figures from a number of clinics in the United States. This happy occurrence, which in itself demands explanation, emphasizes all the more the unsatisfactory nature of available therapy in the remaining thousands of patients whose lives were prolonged for weeks, months, or even a few years, but who died because of eventual failure to respond any longer to agents that for variable periods had produced remissions of importance to the patient.

We are indebted to Dr. Wendell Scott, Dr. Richard Mason, and Dr. G. Congdon Wood of the American Cancer Society and to Dr. C. Gordon Zubrod and Dr. Arthur Serpick of the National Cancer Institute for combining the strengths of the institutions they represent in making possible a conference on the control of acute leukemia. The responsibility for the choice of the program and speakers was borne by these men and a committee consisting of Dr. Joseph A. Burchenal, Dr. James T. Grace, Dr. Henry S. Kaplan, Dr. Howard E. Skipper, and the Chairman. The state of knowledge in this field and the point of view of the Program Committee are illustrated by the choice of the title: "Conference on Obstacles to the Control of Acute Leukemia." The conference was concerned

not merely with the recital of the great gains in our ability to control temporarily the spread of acute leukemia in the patient but rather much more with the identification of the reasons for failure of the treatment presently available and their definition in terms of chemistry, pharmacology, immunology, toxicology, physiology, and clinical investigation. Attention was paid to the laboratory and clinical aspects of supportive therapy with particular reference to blood platelets, leukocytes, and bone marrow transplantation.

In a 3-day session characterized by objective presentations, spirited discussions, and warmhearted frank exchange of knowledge, opinions, criticisms, and suggestions for future work, the group of 50 investigators clarified many problems and achieved in a most gratifying manner the goals that had been set for this conference.

It can be anticipated that when the time comes for a second conference, many of the obstacles recognized and discussed at this meeting will have been removed by the results of research stimulated by this occasion. It would have been apparent to any scientist from another field of medical interest that the removal of the obstacles to the complete control of acute leukemia in man will continue to require the talents of scientists in the many disciplines basic to medicine, as well as those of the several kinds of clinical investigators and medical specialists who are needed for the total care and clinical investigation of patients with acute leukemia.

Two additional obstacles to progress may be identified. The 1st is created by the insufficiency of research facilities, resources, and support in all fields of medicine, including acute leukemia. The 2nd can be removed only when greater numbers of scientists and clinicians devoted to progress in this difficult and challenging field find it possible to work in medical school and hospital environments conducive to the solution of problems of incurable disease.

There is still no cure for acute leukemia in the child or the adult. The deliberations of this conference make it clear that even if the cause or causes of acute leukemia are not discovered and eradicated in the immediate future, it should be possible to control acute leukemia completely by the use of chemotherapy and supportive therapy alone. The directions are clearly marked, and the knowledge and tools required for this achievement are at hand.