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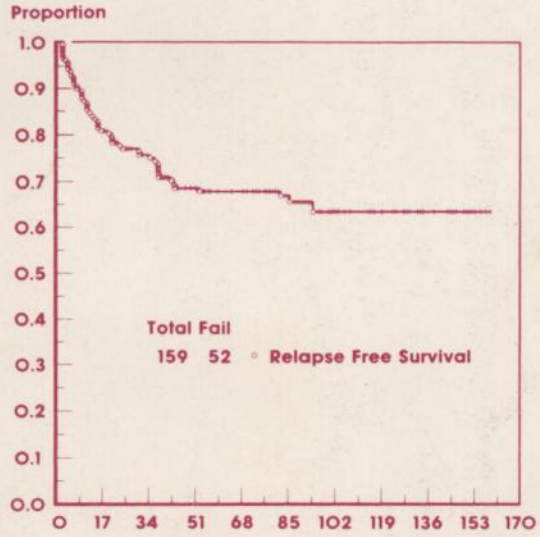

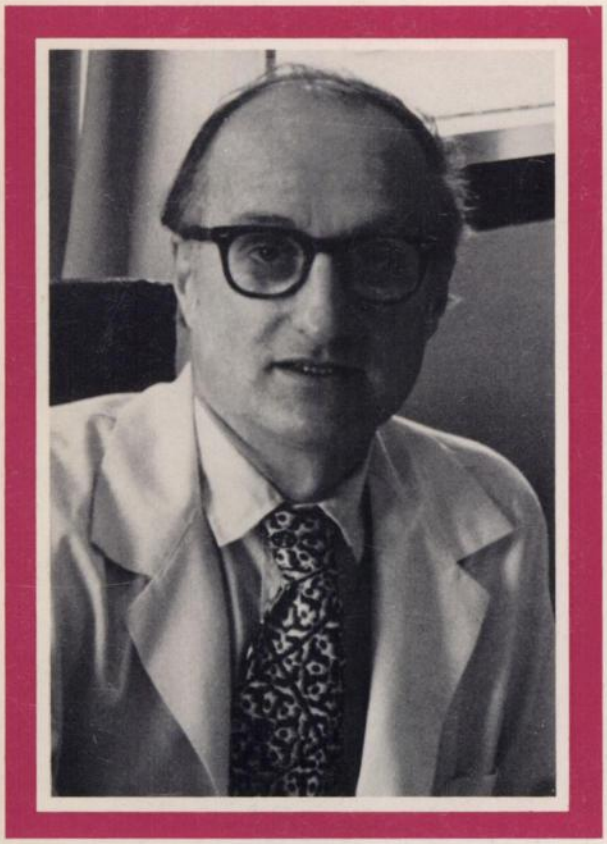

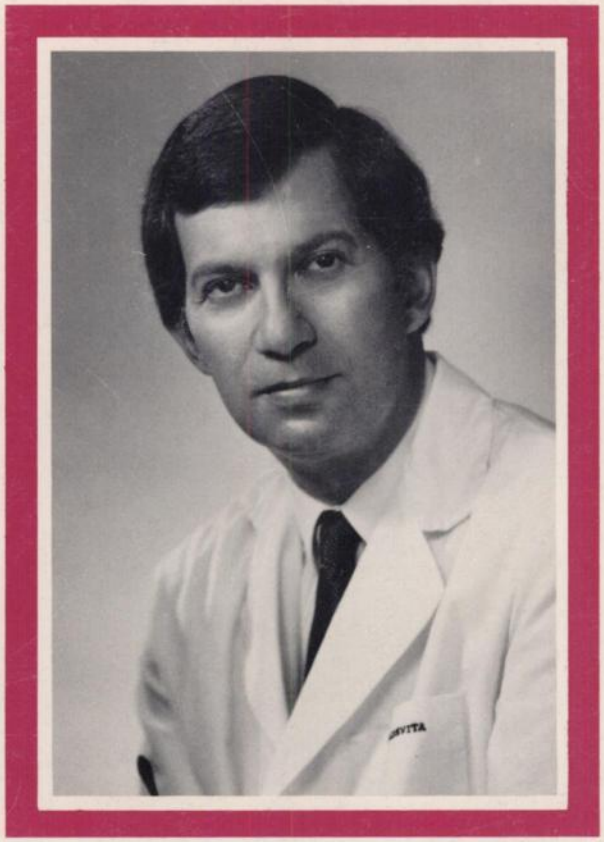

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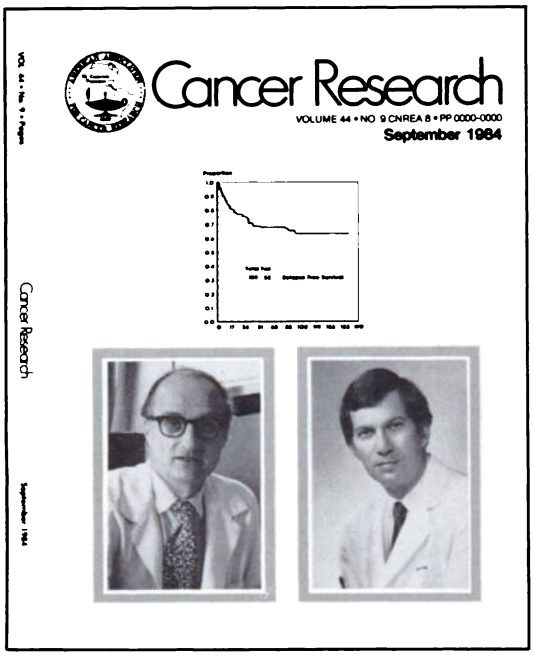

The cover of this issue of *Cancer Research* commemorates the cure of Hodgkin's disease by combination cancer chemotherapy.

Laboratory studies by 1963 had shown that some transplantable rodent leukemias could be cured by combination chemotherapy. Extensions of the findings were then explored in patients with Hodgkin's disease and with acute leukemia. Several drugs that had an effect on these neoplasms were available, allowing selection of combinations.

Among single drugs that produced objective beneficial effects in patients with Hodgkin's disease were the alkylating agents, antifolates, *Vinca* alkaloids, and prednisone. Complete remissions that were obtained in a small proportion of the patients were of short duration.

The original drugs selected for combination chemotherapy of advanced Hodgkin's disease were methotrexate, cyclophosphamide, vincristine, and prednisone. It was shown that the regimen was tolerated and produced beneficial effects in 14 patients.

An enlarged trial was then undertaken with a combination of four drugs acronymically known as MOPP: *M*ustargen (nitrogen mustard, substituted for cyclophosphamide), *O*ncovin (vincristine), *P*rocarbazine (substituted for methotrexate), and *P*rednisone. The duration of treatment was extended to 6 or more cycles over 6 months.

The considerations in the selection of the drugs were: (*a*) use of individually effective non-cross-resistant drugs, in combination, in full doses, to achieve an additive and, perhaps, a synergistic antitumor effect. (*b*) intermittent cyclic administration of drugs at intervals calculated to match recovery of the bone marrow; (*c*) selection of agents from different classes with different mechanisms of action and different toxicities; (*d*) long duration of treatment, related to the cell kinetics of growth of tumors in humans.

The long-term results on 198 patients treated with MOPP were reported in 1980 (De Vita *et al.*, Ann. Intern. Med., *92:* 587–595, 1980). Complete remissions were obtained in 159 (80%), and 107 patients (54%) were without clinical evidence of disease 10 years later. Thus, advanced Hodgkin's disease was curable by combination chemotherapy.

These results were replicated and extended in many medical centers, as summarized by C. A. Coltman, Jr. (Sem. Oncol., *7:* 155–173, 1980).

This significant advance was made at the U. S. National Cancer Institute, Bethesda, Maryland, in which many members of the staff participated. In the primary leadership roles were Drs. Emil ("Tom") Frei III and Vincent T. DeVita, Jr.

Dr. Frei (*left*) was born in 1924 and obtained his M.D. degree from Yale University in 1948. He was at the National Cancer Institute from 1955 to 1965 and at the M. D. Anderson Hospital and Tumor Institute, Houston, Texas, from 1965 to 1973. Since 1973, he has been Director and Physician-in-Chief of the Sidney Farber Cancer Institute of Harvard University, Boston, Massachusetts.

Dr. DeVita (*right*) was born in 1935 and obtained his M.D. degree from George Washington University, Washington, DC, in 1961. He joined the National Cancer Institute in 1963 and was the Director of the Division of Cancer Treatment from 1974 to 1980, when he became Director of the National Cancer Institute and of the National Cancer Program.

The chart shows the relapse-free survival of 159 of the 198 patients who obtained complete remissions on MOPP therapy; it is taken from the 1980 article in the *Annals of Internal Medicine*.

We are indebted to Drs. Frei and DeVita for the information and the illustrations.

M. B. S.

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