THE CANCER LETTER

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DCT BOARD COMMITTEE DRAWING UP PLANS ON HOW TO SPEND BIOLOGICAL RESPONSE MODIFIERS MONEY

Advocates of stepped up research on biological response modifiers for treatment of cancer did a good job of selling Congress on their viewpoint, to the extent that the appropriations committees decreed that $13.5 million be earmarked for that purpose in the 1980 fiscal year budget.

NCI's Div. of Cancer Treatment will be the beneficiary of that decree, with the extra money supporting a program now being drawn up by an ad hoc committee of DCT's Board of Scientific Counselors.

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In Brief

FDA CHANGES PACKAGE INSERTS FOR THIOTEPA, CYCLOPHOSPHAMIDE, AS COMMITTEE SUGGESTED

FDA FINALLY has acted on recommendations by its Oncologic Drugs Advisory Committee three years ago to change the indications for cyclophosphamide and thiotepa on package inserts. Changes were published in the *Federal Register* July 27. They drop "malignant neoplasms of the lung" as an indication for cyclophosphamide and add Burkitt's lymphoma and retinoblastoma. For thiotepa, malignant lymphoma and bronchogenic carcinoma are deleted. The changes apply only to the drugs as NDA approved indications and not to investigational use. Detailed information may be obtained from John Hazard Jr., Bureau of Drugs, FDA, 5600 Fishers Lane, Rockville, Md. 20857, phone 301-443-3650. . . . **EMIL (JAY) FREIREICH**, addressing a group of nurses on nurses in research: "Everyone involved in cancer care is in research. How do you keep the staff going when everyone is depressed? It is easy to get depressed when working with a tough problem. Research is what makes it bearable. If you don't have prospects for improvement, you can't keep going. Research is the guts of cancer care" . . . . **EMIL (TOM) FREI**, same audience and topic: "There is no physician research, nurse research, technician research. There is research. The old system precluded growth by nurses professionally. There is a fantastic opportunity in clinical pharmacology for nurses to grow" . . . . **TEXAS FEDERATION** of Women's Club members in 50 towns throughout the state are raising the native plant, spiderwort, and sending samples to the Univ. of Texas Science Research Research Div. for testing. Spiderwort flowers change color in the presence of radiation and certain chemicals; UT scientists think they might be useful in monitoring the environment for carcinogens. . . . **ENRICO MIHICH**, director of the Div. of Experimental Therapeutics at Roswell Park, is program chairman for the 13th International Cancer Congress in Seattle in 1982. . . . **LITTON BIONETICS** President James Nance has named James Liverman, deputy asst. secretary for environment in the Dept. of Energy, to the new position of senior vice president for applied sciences.

DCT BOARD WILL CONSIDER PROGRAM FOR BIOLOGICAL RESPONSE MODIFIERS

(Continued from page 1)

DCT had planned to pull $2 million out of its Drug Development Program in FY 1980 to support interferon production, and another $2 million the following year. With the extra money, that transfer will not be necessary now, although DCT Director Vincent DeVita said if it develops that the BRM program can use more than $13.5 million, the drug development money could be tapped. That probably will not happen, however, at least not in 1980.

The DCT Board committee, chaired by Enrico Mihich, director of the Div. of Experimental Therapeutics at Roswell Park Memorial Institute, is scheduled to meet Sept. 7-9. Final recommendations to the Board, which meets in late October, will be drawn up then. Other members of the subcommittee are Alex Fefer, Fred Hutchinson Cancer Center; John Bertram, Roswell Park; Allan Goldstein, George Washington Univ.; Evan Hersch, M.D. Anderson; Mathilde Krim, Sloan-Kettering; Michael Mastrangelo, Fox Chase Cancer Center; Malcolm Mitchell, Univ. of Southern California; Herbert Oettgen, Sloan-Kettering; John Whisnant, Univ. of North Carolina; and Abraham Goldin and Michael Chirigos of NCI.

Mihich would not discuss details of the committee's work to date, preferring to wait until after the September meeting. But Hersch described how he would like to see the program set up when he testified on biological response modifiers and immunotherapy at the hearings conducted by the House Select Committee on Aging.

DCT's efforts should "mainly be oriented to carefully controlled phase 1 and 2 clinical trials with careful monitoring of biological effects," Hersch said. "These will be conducted in clinical research centers having strong laboratory facilities. This program must be approved and funded with high priority.

"In addition, considerable basic laboratory research and animal model trials must be conducted concurrently to ask a variety of questions relevant to the clinical trials. Thus, additional funding for preclinical and basic research is necessary.

"Research programs of this type are quite expensive. Grants (3-5 year) in the range of $200,000 to $500,000 per year are necessary for clinical research to be conducted and it is recommended that it be done in 10-15 centers throughout the country. The preclinical research in this area requires 3-5 year grants in the order of $50,000-$100,000 per year and these should be done in at least 30-40 centers throughout the country. In addition, for the NCI participation, funding is necessary for screening of agents and for preclinical toxicology and pharmacology. Depending upon the agent, considerable funding may be necessary for the scale up and production of reagents for the clinical trials.

"Finally, it is recommended that centers for research on biological response modifiers be established. These would be integrated centers in existing major cancer centers that would bring together the critical mass of preclinical and clinical scientists who could do the basic biology, preclinical toxicology and pharmacology as well as the clinical trials and patient monitoring. Such integrated units have been developed in the area of cancer chemotherapy research and have been highly effective. They are even more needed in the immunotherapy area because of the complex nature of the monitoring to be carried out and the importance of biological research to product development. It is recommended that 3-5 such centers be established and that first-year funding be in the range of 500,000 to 1 million dollars each."

Hersch went on to discuss the needs of immunotherapy in general.

"What are some of the problems and obstacles in the development of highly effective immunotherapy for human cancer? The major obstacles are an incomplete understanding of how the body defends itself against the tumor and why the body's defense mechanisms fail, and an incomplete understanding of the structure and function of the immunotherapeutic agents which have shown their modest activity described above. Part of the failure of the defense mechanisms is based on the complex event associated with the immunodeficiency of aging and part is related to the complex effect of the tumor itself on the host defense mechanisms.

"In terms of the characteristics of the immunotherapeutic agents it is obvious that the keys to success are 1) purification and characterization of the active components, 2) synthesis and scale-up production of these components and 3) clinical trials of these components. The above outlined areas should receive high priority for preclinical and clinical therapeutic research funding and steady progress in this area can be anticipated.

"The prospects are indeed bright for the field of immunotherapy. We are on the brink of the development of a large spectrum of agents in the categories of immunorestorative hormones, immunorestorative chemicals, synthetic active nonspecific immunostimulators, including macrophage activators and interferon inducers which are likely to be much more active than the currently available agents. The pharmaceutical industry has been very active in this area and should be strongly encouraged.

"In addition, we have recently identified several of the escape mechanisms including activation of suppressor cells by the tumor and drugs are now available to reverse this suppressor cell activity. Use of these drugs should also make the active nonspecific therapeutic agents more effective.

"Finally, a number of techniques is now available by which highly purified microbial adjuvant subcomponents and other highly purified materials such

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as tumor antigens can be produced in large amounts and these should greatly facilitate and make more effective and specific the therapeutic maneuvers which have been carried out with crude agents until this point in time," Hersch concluded.

BUDGET PROCESS FOR FY 1981 STARTS; INVESTIGATOR INITIATED ISSUE ARISES

NCI will submit its budget request for the 1981 fiscal year, which starts Oct. 1, 1980, by Sept. 17 to President Carter, asking for the full amount authorized by the National Cancer Act—$1.135 billion, $135 million more than it will get in the 1980 fiscal year.

The request to the President (which in reality will go to the Office of Management & Budget) will be accompanied by NCI's "zero based budgeting" justification. It will be broken down into program areas, showing which program elements will be funded at various budget levels. If OMB staff have ever read NCI's justifications in the past, they have given no indication of it in the final budget presented to Congress.

NCI executives will make verbal presentations to OMB later in the fall, and the White House will make its final decisions on the budget in late December. It will go to Congress in January.

An issue which has been simmering since Congress added $18.2 million to NCI's 1980 appropriation for "investigator initiated research" probably will heat up before the 1981 appropriations process has been completed. That involves the definition of "investigator initiated."

NIH and HEW have interpreted it to mean R01 and P01 grants, and in fact House and Senate committee discussion on the bills have sometimes equated R01s and P01s with investigator initiated research, sometimes with basic research.

The fact is that not all R01s and P01s are basic research; it is also true that other grant mechanisms can be investigator initiated, including the Cooperative Group and Organ Site programs.

Organ site grants most definitely include a considerable amount of basic research. And clinical investigators argue that much of their work involves basic research. Scientists in both programs can see no justification for the favoritism extended to R01 and P01 grantees in passing around the extra money.

Cancer center support grants also are investigator initiated, and were excluded from sharing in the increase. Cooperative Group, Organ Site and center representatives obviously need to do a better job in explaining their roles in the Cancer Program to the appropriations committees.

ACCC PLANNING SESSION PONDERS IMPACT AT COMMUNITY LEVEL OVER FIVE YEARS

The impact over the next five years of basic and clinical research on cancer treatment at the community level, prospects for cancer control efforts and the role to be played by cancer centers and various other organizations were subjects of a "long range planning" meeting conducted earlier this year by the Assn. of Community Cancer Centers.

Participating in the discussion with ACCC officers and board members were Donald Buell, program director for medical oncology/community activities of NCI's Div. of Cancer Control & Rehabilitation; Carlos Caban, DCCR program director for centers outreach; Jane Henney, special assistant for clinical affairs in the Div. of Cancer Treatment; C. Stratton Hill Jr., associate director of M.D. Anderson Hospital & Tumor Institute; Albert Owens, director of Johns Hopkins Oncology Center; and C. Gordon Zubrod, director of the Comprehensive Cancer Center for the state of Florida.

Summaries of comments by general topic area follow:

Basic research and potential community impacts over the next five years:

A practical output (of research on the oncogenic series of events) might be the ability to understand which people are at greater susceptibility. . . . A practical output of tumor cell biology would be to see if some (subsets of tumor populations) are susceptible to specific drug combinations. . . . Better delineation of how you use things in combination or sequence, etc. . . . Biomarkers. The practical output (hopefully) is diagnosis or to monitor tumor cell mass or the effectiveness of therapeutic approach.

Tumor or oncopheal antigens will become better delineated or purified which might lead to a new basis for immunotherapy using antibodies as carriers for isotopes or drugs. . . . Some basic research in nutrition that gets stimulated, seeking a specific basis for institutional support or therapy. . . . More work on the transformed cell, the normal cell that is transformed through some stimulus. . . . We would begin to get some basic understanding of the process of transformation itself. . . . An enormous increase in the study of common solid tumors . . . more search into the biologic differences between these and more responsive, less common tumors.

More drug and radiation research on the differential effects on normal and malignant cells, seeking an advantage for the recovery or rescue of normal cells. . . . Research will increase on chemical carcinogens, seeking approaches that will help us identify high risk groups who are exposed, with an eye towards defining what they are exposed to, how much is reaching the target organs, and what can be done about removing them as a preventive measure. . . . Chemo prevention.

Attacking at the level of the promotion event, especially with high risk groups, holds promise. . . . Technologic advances that give rise to many of these opportunities. . . . Immunology with its opportunities for detection and therapy. . . . Radiopharmacy and

scanning machines with their opportunities for detection. . . . In vitro and in vivo systems for tumors and other cell systems.

Clinical research and treatment and potential community impact

Clinician must act as a public advisor. . . . A more defined position for adjuvant chemotherapy and perhaps a place for adjuvant surgery. . . . Immunotherapy's roles may be better defined. . . . Sequential therapy and applications of cell kinetics in drug choices may increase. . . . Prediction of responses on the basis of more fundamental cell studies. . . . Amelioration of drug toxicity and rescue techniques will increase. . . . Continued drug combination studies based on cell kinetic studies will appear. . . . Perhaps more use of controlled environments. . . . More efforts in thermal therapy.

More emphasis on pain efforts. . . . Hospice and other psychosocial support mechanisms may show other methods of supporting drug therapy. . . . High LET and the development of neutrons and other high energy particles. . . . In surgery, we see surgeons redefining some of their roles. . . . Working on second generation compounds with less toxicity. . . . On the diagnostic level, the knowledge from the estrogen receptor data opens the possibility of selecting therapeutic regimens on a more national basis and some idea of prognosis.

Scanning techniques may allow the detection of whether nodes are positive or negative and thus may further minimize the need for radical surgery. . . . We are redefining disease in functional terms, based on biologic mechanisms, based on responsiveness, and prognostic factors. . . . There's going to be a shifting emphasis toward the solid tumors. . . . A more scientific base for multimodal treatment. . . . Using the techniques of behavioral science, and what we are learning about the pharmacology of analgesics, the receptors, neural transmitters and so on, we are going to be able to develop a rationale and a more specific and effective approach to the problems patients and families have.

Stem cell support, rescue. A scientific basis for nutrition. . . . The emergence of something that might be called preventive oncology. . . . Include such things as defining a host or a susceptible group out in the population to the other extreme of how we manipulate our therapeutic modalities to prevent untoward consequences. . . . Drug combinations may become simpler. . . . I think surgery is going to become simpler and less radical as the impact of effective chemotherapy takes place. . . . Radiation therapy is going to become more complex rather than less. . . . There will be more use of normal controlling materials. The control over differentiation and the control over selection of those few cells that will metasticize. . . . In immunology, the use of nonspecific materials is pretty much at an end. . . . We are going to see entirely new directions as we learn more about the varieties of T-cells and their roles in sparking advance of cancer or suppressing its advance.

Our investigative techniques in clinical cooperative groups are going to be rehashing the need for proper control groups. . . . How much does the privacy of records such as informed patient consent interfere with clinical investigation, if it does? . . . It is a matter of establishing, up front, what our present state of performance is. Where are our failures? Where can we improve? Of those things that need improvement, where do we find knowledge and technology that can help us? Of those things that need improvement, where we have very little chance of influencing the outcome, why put our effort there?

You have to go after professional education, you have to go after patient and public information or education. You have to go after the matter of evaluation. You have to go after the surveillance of populations in your community. You have to do a number of things that may lead to regional alliances with different groups or some association on a national basis. . . . Mechanisms come, mechanisms go. Some are more appropriate for this or that. That's an ongoing sort of affair. There's a very profound change going on in our professional activities as a result of interdisciplinary treatment or patient management. . . . Nothing is going to happen if it doesn't happen at the bedside, whether the bed is in a university hospital or in the community. Nothing is going to happen if it doesn't happen in a health maintenance organization or anywhere else that you get a reminder to participate in some activity. . . . The clinical team... functioning as epidemiologist. . . . In industry to determine or define the industrial worker at risk. Much clinical input is needed.

The community's future role in clinical treatment:

In adjuvant studies, it is absolutely absurd for a center to do this without having a combined and unified activity with the physicians in the community. . . . Many of the centers would like to see center supported regional groups, where studies are carried out between the centers and surrounding oncologists and community hospitals. Unfortunately, NCI has not organized its funding in any way to make this sort of regional funding possible. . . . Right now, many community physicians would desire to participate, but neither they nor we (centers) can find the dollars just to support some oncology nurse data coordinators.

It is not only appropriate for money to go directly to communities, it is essential if we are going to get on with some major clinical groups in our regions. . . . Regionalization is one of the alternatives that will be studied for the future. It has some advantages in that patients can be treated in their own geographic area. . . . There are clearly quality control advantages in looking at the kind of data coming in if you are working in a localized area.

Cancer control efforts (current and future):

There is a feeling that the social scientists have kind of let us down...there is an excessive zeal for intervention. No one has indicated they are willing to take time to precisely define what the needs are in the psychosocial area for cancer patients. . . . We are finding that much of the information that we are getting in based on these testing instruments is not providing us useful information. . . . We have spent much more money in these scientific areas and it has yielded very little. So why don't we have a good go at the social areas?

There have not been enough social scientists systematically involved in the NCI decision making process so that you can get valid and reliable information. The people who are making those judgments are not competent to make the judgments. . . . With regard to state funding and the diminution of federal funds, one could hope state appropriations could be brought into the area of cancer control . . . . If there is a new idea for a cancer control program it is going to take essentially three years before you see a real product of that. . . . It appears we have not done a good enough job of communicating our perceptions of what cancer control is, at the national level.

There are an enormous amount of projects we wish to stimulate in the area of preventive medicine. That's a combination of education, screening, mostly demonstration programs for building the capability for education programs in the type of specialties we have heard are deficient areas. . . . In the treatment, rehabilitation, continuing care area, we have emphases now in the area of pain, where we would like to see better research. Nutrition is another area. And another important area is an analysis of the experiences we've had with the various network concepts we've tried in community hospitals.

We are constantly barraged with the ethical issues, the scientific issues and later we have all sorts of audiences from occupational, industrial audiences who ask questions on ethical and scientific issues. We are trying to analyze and assimilate the various approaches we have used. . . . The three main thrusts of the program are single intervention programs, the community based programs and the support to cancer centers. We hope there is a growth in the grants program but we have seen so many areas that people are not addressing; that is why we keep sending out RFPs.

ACCC might contribute by spreading an awareness of what types of questions community physicians should ask when they see something the press has picked up as a very good hot item for this week. . . . The notion that comprehensive centers alone could do it or the state health department alone or a consortium of local hospitals alone or whatever, all of those things are inappropriate. This requires the essence of committed collaborative action.

Other cancer organizations and associations:

AACI has had discussions with NCI on the future of centers. The areas of particular concern are the problems of cancer control, of education, and of clinical trials. . . . One of the difficulties with the large cooperative groups is that they have such a superstructure that the new idea, the pilot topic has a great difficulty getting examined. . . . A return to smaller regional groups of people who work directly, day-by-day, would be an enormous advantage for the innovative pilot type study. For the phase 3 study, the big cooperative group is fine.

Evaluate the reasons community physicians desire to be involved in cooperative groups. If the reasons are because they want access to new drugs, to have funding for nurse oncologists or people to record data, to provide means of communication both to the experts and among themselves, as well as to collect case material on rigid protocol, some of those needs can be met some other way than a cooperative group. . . . Some of the centers are running afoul of the American Cancer Society. This led to a meeting between ACS and center leadership to resolve these differences and how we collaborate and work together.

Centers have a focus on cancer and responsibility in research and education, whether professional or public, in getting new knowledge into practical application in relation to patient care, in extending somehow and relating to the community. There are not many other types of organizations that span all those various facets. . . . As a way in which to test, to validate or to teach a number of things we are talking about, it's a very exciting model or experience, a microcosm. . . . (On centers' attitude toward cancer control funding)...What bothers me is not what you've done, but where you are between what you should have done and what you have accomplished. The broader that difference, the greater the frustration.

The future of the physician professions:

Our professions are entered into a partnership of various kinds of people—technologic expertise, scientific expertise and so on, focused on how to take care of the cancer patient. . . . We are going to face increasing regulation, increasing accountability and we have to pay attention to that. The matters of recertification, to relearn and update are going to be real important. . . . A group of people may sit down in their community and decide, "O.K now this is what you ought to do if someone comes in with a breast lump, these are the things that are rational to do based on our breast knowledge of medicine." Now if the diagnosis is cancer, then there's another set of things that we ought to be doing. If we go back and look at ourselves, look at what we did during the past year in that regard, we're going to have failed on what the idea is. We may fail because the services were not available widely. We need to try somehow

to generate the radiation therapy that is needed or the diagnostic scanning equipment that's needed. We've got to put heat on boards of the local hospitals or we've got to argue with the HSA or whatever the mission is. But you then have a basis on which to do that.

The status and future of administrators:

On the educational side of an administrative degree, there's been an explosion the last five years of numbers of programs, training people. Unfortunately, a variety of settings they come out of even in masters degree programs so that they have different perspectives. . . . People who were effective functionaries 20 years ago would be lost in today's environment. . . . More subspecialty training and with the numbers of people being trained there is the potential to find people who have direct cancer program credentials. . . . There is more available supply. Hopefully the product is better...and it has made for a lot of competition in lower level jobs. . . . Mobility is increasing dramatically. The average lifetime of an administrator in a hospital is somewhat less than four years. . . . There is the whipsaw of the three major factors—the hospital board, the medical staff and operations. If anyone gets involved in multiples of those, the jeopardy is very high, turnover as a result is high.

The status and future of oncology nursing:

We are seeing a growing shortage of nurses. It is getting to national proportions. There is not one study that says there is not a shortage of nurses. Every study the government has done says there is a shortage of nurses. . . . Within the field a lot are moving to specialty nursing because of personal interest. . . . More graduate nurses appear to have an increased interest in the area. We now see some subspecialization. . . . We are looking at the expanded role of oncology nurses in many programs. They do just about everything from data managing to chemotherapy delivery to psychosocial coordination to working with the community. . . . In the next five years, we will see increased growth. ONS's growth to 1,600 members over the last three years is indicative. The majority of that membership is community, rather than cancer center or medical school. . . . Among the problems we face in the next five years is a lack of education and training programs. In the basic curriculum, there is minimal discussion of oncology. There are only four or five graduate programs with defined oncology specializations. . . . In the next five years, I think we will see more research from nurses.

The status and future of social work:

The role of hospital social workers has to change from one where they are usually referred to as persons who can get you money or a ton of coal or a basket of food to one who can really begin to, in a more systematic and organized way through discharge planning, become involved in the hospital period and provide support not only for the patient but for the family members. This is particularly true of the terminally ill patient. . . . We have to do a better job with the physicians and nurses in interpreting what our role is.

If we can more systematically involve these community agencies to take on the patients with chronic illnesses then the pressure to get specialized people in the hospitals will be lessened because of people out there beginning to do a job that I think they should. . . . In many communities in this country, community family agencies will not accept a cancer patient referral. They don't feel they can deal with the medical problem. . . . I encourage the hospitals and physicians who work there to really look at the kind of social workers they have. Over the next five years there has to be an increase in continuing medical education.

Potential ACCC roles:

This organization has a responsibility to remind people in clinical research we are treating both the disease and the patient. . . . This organization has a responsibility to research: to be aware of what the critical research questions and needs are. . . . I would propose ACCC become part of these group discussions (with AACI, ACS and state departments of health) so that in each area the four groups interested in the welfare of the cancer patient could somehow formulate a unified plan for that region, choosing what complementary parts of it we could feel most comfortable with. . . . This organization has an important role in (informing physicians of) the premature transfer of unproven treatment. . . . We will need to keep a link with basic research.

We have to be sure that the information we are going to disseminate is not ultimately going to be counterproductive. . . . We may want to consider relating ACCC to other specialty groups emphasizing the changing nature of cancer care, say, surgical oncology. Working with these groups to discuss the transitions in cancer care. . . . What is the validating body for the information that goes out? I'm not sure ACCC could be that body.

One of the issues your organization should address, because youare not going to get the funding from us (DCCR), is how to support in the community programmatic functions. We can fund things that are demonstration programs, to show and help prove what are the most effective ways to organize community programs. We need to assess whether these are cost effective programs and can be recommended for more widespread use. If that happens and we can show that a program like the COP has cost/benefit, then somehow out of the health care delivery system has to come a mechanism for funding the program support people to make things go. If you think it's important, I suggest your organization look at what those sources of funding can be.

The larger federal scene and cancer funding:

There are some of these programs that have been around a long, long, long time that are not reim-

bursible by anybody. It's not just the new programs we're demonstrating. There's the basic cancer control programs that not only the federal government in its reimbursement programs do not recognize, but since there is no leadership there, it is a very difficult thing to put it in private insurances. . . . When you get into a tightening time for resources, people easily approach the problems by arguing which discipline ought to have the edge or which constituency ought to get a bigger piece of the pie. We have a period ahead of us where we're going to run a big risk of haggling amongst ourselves while the world goes on to something else.

Government involvement is going to get greater and we're going to have a lot more complexity, which automatically results in paper flow and problems that are going to relate from that.

Government involvement and grants to all kinds of professions are going to disappear. If HEW has its way, we will not have any type of grants or scholarships in the next couple of years. The pbjective is to phase all of them out for loans. . . . I don't think there's any question we have enough physicians in the pipeline. But we have a terrible distribution problem that is not going to be solved by anything the government or the reimbursement system is currently doing.

ACS ANNOUNCES 415 NEW RESEARCH GRANT AWARDS, WITH EMPHASIS ON PREVENTION

Increasing interest in environmental aspects of cancer prevention was reflected in the American Cancer Society's announcement of 415 new research grants totaling $26,277,381.

The awards, in support of a wide range of projects primarily in the areas of cancer detection, treatment and basic research, were highlighted by the following:

- $82,920 to Lester Breslow of UCLA for continuing investigation of Mormon lifestyles to find out the extent to which modified diet and abstention from cigarettes and alcohol may result in lower cancer risks.
- $140,026 to Morton Mandel of the Univ. of Hawaii for study of diet and environment as possible explanations for differing rates of colon cancer in native and Hawaiian-born Japanese.
- $46,764 to Sherwood Gorbach of the New England Medical Center in Boston for continuing investigation of diet and cancer of the colon.
- $64,950 to Kuo-Hsiung Lee of the Univ. of North Carolina for testing of various plant extracts used in Taiwanese folk remedies for leukemia and other forms of cancer.

Total grants include $3,197,730 for studies in biochemistry and chemical carcinogenesis; $8,969,662 for basic research on nuclear acids, protein synthesis, cell and developmental biology, microbiology and virology; $8,405,710 for clinical investigations; $1,855,500 in direct grants to institutions for pursuit of new research leads at their discretion; $554,250 for similar use by the Society's Research and Clinical Investigation Committee, and $3,420,039 for fellowships and research professorships.

Among grants aimed at developing improved cancer detection techniques was one for $107,594 to Edwin Gaffney of Pennsylvania State Univ. for work on a possible blood test for breast cancer.

In the field of clinical investigation, Philip Schein of Georgetown Univ. received $43,042 for work with chemotherapeutic anticancer agents capable of producing minimal side effects.

The awards were announced by Frank Rauscher, ACS senior vice president for research, who said, "Each of today's grants was made after careful review by top scientific experts to determine the merit of the proposal, the qualifications of the investigator and the potential of the research in terms of ultimate benefit to the cancer patient."

The society makes grants both to individuals and to institutions. It also encourages careers in cancer research through its support of postdoctoral fellowships and research professorships. In addition the society maintains its own staff of epidemiologists and statisticians who continuously study human living habits and their relation to cancer.

Most of the grants are for a period of one year beginning July 1, 1979.

NCI ADVISORY GROUP, OTHER CANCER MEETINGS FOR SEPTEMBER, OCTOBER

Third National Conference on Breast Cancer—Sept. 6-8, Waldorf Astoria, New York, sponsored by the American Cancer Society.

Large Bowel Cancer Project Review Committee—Sept. 6-7, Prudential Bldg., Houston, open Sept. 6, 7:30 p.m.–8 p.m.

Bladder Cancer Project Review Committee—Sept. 6-7, Logan Airport Hilton, Boston, open Sept. 6, 8:30–9 a.m.

Tumor Markers 1979: Clinical & Biological Aspects—Sept. 9-14, 7th annual meeting of the International Society for Oncodevelopmental Biology & Medicine, Univ. of Surrey, Guilford, UK.

Oral Cancer: Detection, Treatment, Rehabilitation—Sept. 13, Roswell Park continuing education in oncology.

Histopathology of Head & Neck Tumors—Sept. 15, San Francisco, sponsored by the Northern California Cancer Program.

Oncology Program for Nurses—Sept. 15, St. Vincent's Medical Center, Jacksonville.

Current Concepts in Providing Pain Relief for Cancer Patients—Sept. 15, Roswell Park continuing education in oncology.

Advances in the Cause & Prevention of Cancer—Sept. 15-16, San Francisco Sheraton-Palace Hotel, sponsored by the Northern California Cancer Program and Univ. of California (San Francisco).

7th European Congress of Pathology—Sept. 17-21, Valencia.

Prostatic Cancer Project Review Committee—Sept. 19-20, Roswell Park Research Study Center, open Sept. 19, 1 p.m.–adjournment.

Midwest Cancer Seminar—Sept. 20-22, Concourse Hotel, Madison, Wisc., sponsored by the Univ. of Wisconsin Clinical Cancer Center and the Medical College of Wisconsin.

Anti-Estrogen Therapy for Hormone Dependent Tumors—Sept. 27, Sorrento, Italy. Contact Lois Trench, Stuart Pharmaceuticals, Wilmington, Del. 19897, phone 302-575-2284.

Cancer Research Manpower Committee—Sept. 29, NIH Bldg 31 Rm 9, open 9–9:30 a.m.

National Cancer Advisory Board Subcommittee on Organ Sites– Oct. 2, 7:30 p.m.

National Cancer Advisory Board–Oct. 3-5, NIH Bldg 31 Rm 6, open Oct. 3, 1 p.m.–5 p.m., Oct. 5, 9 a.m.–adjournment.

NCAB Subcommittee on Environmental Carcinogenesis–Oct. 3, 7:30 p.m., NIH Bldg 31 Rm 7A24, open.

NCAB Subcommittee on Centers– Oct. 3, NIH Bldg 31 Rm 9, 7:30 p.m.

NCAB Subcommittee on Construction–Oct. 3, NIH Bldg 31 Rm 7, 7:30 p.m.

NCAB Subcommittee on Special Actions–Oct. 3, 8 a.m.–noon, closed. (The complete schedule for the NCAB meeting and open times of the subcommittee meetings will be published in *The Cancer Letter* when they are available.)

IXth International Symposium on Comparative Research on Leukemia & Related Diseases–Oct. 3-6, Pitsunda, USSR.

Tumor Progression Symposium–Oct. 3-5, Pick Congress Hotel, Chicago, sponsored by ITR-Biomedical Research of Univ. of Illinois, and American Cancer Society.

1st International Congress on Hormones & Cancer– Oct. 4-6, Univ. Cattolica del Sacro Cuore, Rome.

1st International Congress on Ultrasonic Examination of the Breast– Oct. 8-9, Sydney, Australia.

FDA Oncologic Drugs Advisory Committee– Oct. 11-12, Parklawn Bldg., Rockville, Md., 9 a.m., open.

EORTC Symposium on Advances in Cancer Chemotherapy–Oct. 18-20, Institut Jules Bordet, Brussels.

Importance of Subsets of Normal & Tumor Cell Population in the Management of Cancer–Oct. 24-25, Roswell Park, continuing education in oncology.

National Capitol Area Branch, American Assn. for Lab Animal Science–Oct. 25-26, Hunt Valley Inn, Md., 9th annual meeting.

Cancer Control Grant Review Committee–Oct. 28-30, NIH Bldg 31 Rm 8, open Oct. 28, 3–3:30 p.m.

NCI Div. of Cancer Treatment Board of Scientific Counselors– Oct. 29-30, NIH Bldg 31 Rm 4, 9 a.m., open.

3rd Annual Cancer Symposium– Oct. 31-Nov. 2, Scripps Memorial Hospital Cancer Center, La Jolla.

Clinical Cancer Education Committee– Nov. 7-8, NIH Bldg 31 Rm 10, open Nov. 7, 8:30–9:30 a.m.

Cancer Special Programs Advisory Committee– Nov. 8-9, NIH Bldg 31 Rm 8, open Nov. 8, 9–10 a.m.

Molecular Actions & Targets for Cancer Chemotherapeutic Agents– Nov. 8-9, Sheraton Park Plaza, New Haven, Conn., sponsored by Yale Comprehensive Cancer Center. Contact Dept. of Pharmacology, Yale Univ. School of Medicine, 333 Cedar St., New Haven 06510.

NCI CONTRACT AWARDS

Title: Breast Cancer Detection Demonstration Project, six month extension
Contractor: Mountain States Tumor Institute, $22,897.

Title: Latin American Cancer Research Information Program
Contractor: Pan American Health Organization, $541,238.

Title: Search for genetic material in human cancer and studies on mechanism of oncogenesis, continuation
Contractor: St. Louis Univ. School of Medicine, $50,000.

Title: Detroit SSMA population-based cancer registry, continuation
Contractor: Michigan Cancer Foundation, $488,531.

Title: Study of the relationship between conjugated estrogens and the risk of breast cancer among oophorectomized women
Contractor: Kaiser Foundation Research Institute, Oakland, Calif., $95,104.

Title: National Cancer Program information Clearinghouse and allied services, modification
Contractor: Kappa Systems, $158,043.

Title: Breast Cancer Detection Demonstration Project, six month extension
Contractor: Virginia Mason Research Center, Seattle, $76,127.

Title: Psychological aspects of breast cancer, three month extension
Contractor: Montefiore Hospital & Medical Center, Bronx, $73,363.

Title: Measurement of immunological reactivity to human cancer, continuation
Contractor: Litton Bionetics, $293,609.

Title: Data management system and statistical support for NCI serum panel
Contractor: Ebon Research Systems, Silver Spring, Md., $70,437.

Title: Preparation and analysis of cell surface protein fraction, continuation
Contractor: Univ. of Illinois Medical Center, $34,325.

Title: Immunotherapy of mouse ovarian cancer using specific serotherapy in combination with intraperitoneal C. parvum
Contractor: Sidney Farber Cancer Institute, $126,143.

Title: Studies of normal, premalignant and malignant epithelial tissues of the human
Contractor: Univ. of Maryland (Baltimore), $623,948.

Title: Analysis of federal research on biological and health effects of ionizing radiation
Contractor: National Academy of Sciences, $862,904.

Title: Studies in environmental cancer utilizing a pre-paid health plan, continuation
Contractors: Kaiser Foundation Research Institute, Oakland, Calif., $300,182; and Portland, Ore., $399,879.

The Cancer Letter _Editor Jerry D. Boyd

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