

IMMUNOLOGY

Cancer Immunizing Is Aim

Knowledge that cancer is common to animals and man should lead to closer cooperation between medical researchers and practitioners to combat the disease.

► THE POSSIBILITY of immunizing against cancer is engaging the thoughts and research of medical experts.

Immunization against viruses that may be involved in some types of human cancer or immunization with an antigen produced by such viruses offer a rational approach to the fight against cancer, the Fifth National Cancer Conference was told in Philadelphia.

No proof yet exists that viruses cause human cancer, but some viruses have produced cancer in animals.

Dr. Leon Dmochowski, who is on the staff of the University of Texas Postgraduate School of Medicine, Houston, reported that he used the electron microscope to discover virus particles similar in size, appearance, internal structure and development methods in corresponding spots in mice and in humans.

This finding is a useful preliminary step, although it does not necessarily indicate a cause of cancer in humans.

Breast cancer patients have particles in their milk that differ from the milk of normal patients. Female mice have virus particles in their milk that are transmitted to baby mice.

A "cancer is a disease that affects every living creature," Dr. Dmochowski said, explaining that a reasonable approach can be made to the study of cancer in man only after scientists and doctors are armed with knowledge of the results of studies on animal cancer.

Prevention and cure of human cancer will come only through closer cooperation between medical practitioners and laboratory scientists, he said.

Dr. James P. Cooney, vice president of medical affairs, American Cancer Society, agrees with the Texas scientist on the need for more cooperation.

A busy doctor often does not take time to read about all the current research. Likewise, patients do not take advantage of simple tests such as the Papanicolaou smear, which detects cancer of the cervix or the neck of the womb early and can save lives through treatment.

"Only half of the women in the United States have taken advantage of this test," Dr. Cooney said.

He estimated that 90,000 persons in addition to the 150,000 expected to be saved from cancer death next year would live if they took advantage of knowledge now in use by physicians.

But they will probably not see a doctor until it is too late for surgery, X-ray treatment or drugs to do them any good, he said.

Dr. Dmochowski, who is also on the staff of the M. D. Anderson Hospital and Tumor Institute, Houston, said there is "no doubt that the present time is exceptional for scientists to close ranks with the practitioners of medicine in order to achieve a better understanding of the problems."

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Platelets, which control the blood-clotting mechanism, are "fractionated" from whole blood donations at blood centers to treat some patients. Another technique is plasmapheresis, in which platelets are taken from a blood donor and the red cells returned to him, making it possible for him to give further donations in a short time. Platelet replacement is useful in the management of patients with thrombocytopenia, in which platelets controlling the blood-clotting mechanism are inadequate.

Lung cancer, which now kills more than 40,000 persons, mainly men, in the United States each year, and which takes three out of four lives of its victims, can be treated by partial removal of the lung.

Lobectomy, or removal of one or more lobes of the lung, is as good an operation as total removal of the lung called pneumonectomy, Dr. Richard H. Overholt and Blake Cady of Boston said.

"The best operation is that which will remove all gross disease and preserve all possible functional pulmonary tissues," the Boston doctors said.

"The surgeon who cares for lung cancer patients carries the responsibility of evaluating each case carefully," they added. They said without surgical operation, the patient is doomed, but it is "pointless to hasten this demise or increase suffering by ill-advised exploration."

Early detection is important as in other forms of cancer. Speakers differed on the value of radiation before or after surgery.

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General Dynamics/Astronautics

ZERO BUOYANCY—In a test simulating weightlessness in space, Air Force Sgt. Charles W. Scars finds it impossible to keep his feet in place while bending to touch his toes. The feet come up as the head goes down. A team from the Wright-Patterson Air Force Base aerospace medical research laboratory, Dayton, Ohio, and the Astronautics division of General Dynamics Corp. conducted the test in San Diego.

MEDICINE

Leukemia Cure Near?

► LEUKEMIA CURE and prevention may come in the near future, cancer specialists believe.

This fatal cancer of the blood-forming organs, which attacks young children in acute form and adults in acute and chronic forms, is believed to be caused by one or more viruses, Dr. James T. Grace, assistant director, Roswell Park Memorial Institute, Buffalo, N.Y., said in Philadelphia.

"As the search for human leukemia virus intensifies in many laboratories around the world," Dr. Grace told the Fifth National Cancer Conference, "it will be surprising if one is not identified within the reasonable future." Vaccine could then be developed to prevent the disease.

Treatment, meanwhile, with drugs and transfusions is prolonging lives.

Dr. Joseph H. Burchenal, chief, division of clinical chemotherapy, Sloan-Kettering Institute for Cancer Research, New York, said a few patients treated with several new

drugs in the past few years have shown no disease from five to even 14 years after the diagnosis of acute leukemia.

Of the most promising new drugs, vincristine, an alkaloid from *Vinca rosea*, the periwinkle plant, is perhaps the most important, particularly for rapidly inducing remissions.

Dr. Burchenal said practical advances are seen from studies of the virus and immunology aspects of these surviving cases, and that total body irradiation followed by marrow transplantation and chemotherapy, or drugs, has occasionally produced promising results.

Dr. Emil J. Freireich of the National Cancer Institute, Bethesda, Md., which with the American Cancer Society sponsored the conference, said many patients with leukemia have been helped by transfusion of normal cells from healthy donors. This controls anemia and prevents bleeding, which often causes death in leukemia patients.