Antibiotics May Increase Adverse Side Reactions To Some Cancer Drugs

Antibiotics, sometimes given to cancer patients to reduce adverse reactions to cancer drug treatment, may in some cases increase the toxic effects, National Cancer Institute scientists announced yesterday (April 14).

Earlier experiments have shown that germ-free animals tolerate larger doses of cancer drugs than conventional animals. As a result, antibiotics are sometimes administered to cancer patients to simulate the germ-free state and allow administration of larger doses of cancer drugs necessary to treat the disease effectively.

In a report to the 53rd annual meeting of the Federation of American Societies for Experimental Biology in Atlantic City, Drs. Howard W. Bruckner and David P. Rall described experiments in which the antibiotic neomycin sulfate increased the toxicity of at least one antibiotic, neomycin sulfate, in conventional animals. As a result, larger doses of cancer drugs than conventional animals tolerated to cancer patients to simulate the germ-free state and allow administration of larger doses of cancer drugs necessary to treat the disease effectively.

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May Seminar Will Stress College Campus Changes

A Science and Public Policy Seminar will be held in the latter part of May at Belmont, the Smithsonian Institution's Conference Center near Elkridge, Md.

The conference, which starts Sunday afternoon (May 25) and terminates Wednesday afternoon (May 29) is for members of the NIH extramural professional staff.

Views Exchanged

Participants exchange views with discussion leaders. These have included speakers from the Office of Science and Technology, Board of the Budget, Congress, and universities and medical schools.

What significance these changes have in regard to the relationship of NIH with grantee institutions will be fully explored.

The Committee on Staff Training-Extramural Programs, sponsor of the seminar, selects the participants who are nominated by I/D and Bureau Directors.

Prospective buyers of new equipment have been asked to consider NIH excess property valued at more than $10 million at no cost to Government users.

Employees may visit SMB's Property Utilization Warehouse for reissue to NIH and other Government agencies.

The surplus items were transferred to the Property Utilization Warehouse for reissue to NIH and other Government agencies.

'Operation Cleanup' 1969 Successfully Completed, 2,773 Items Collected

According to Donald R. Watson, chief, Supply Management Branch, NIH's "Operation Cleanup" 1969 has been successfully completed.

Scientific, laboratory, and office equipment—2,773 items—valued at $535,925, was collected during the campaign.

Items Transferred

The surplus items were transferred to the Property Utilization Warehouse for reissue to NIH and other Government agencies.

'Walk-thru' tours make up of 1/D and SMB representatives canvassed buildings occupied by NIH employees and identified surplus items.

Choriocarcinoma Studies Discussed by CC Nurses At Second Conference

Findings of an NIH clinical research team studying choriocarcinoma in male patients were discussed recently at the second Clinical Nursing Conference of the year in the Clinical Center.

Choriocarcinoma is a highly malignant and invasive tumor of the genital region that spreads relatively early in the course of the disease.

Nurses from the Cancer Nursing Service were joined in the conference by Dr. Griff T. Ross, assistant chief of the Endocrinology

Speakers at the recent Nursing Clinical Conference were (1 to r): Mildred Claassen, Elizabeth Hayes and Alice Parsons, clinical nurses, and Dr. Griff T. Ross, NCI.

Branch, National Cancer Institute. He reviewed current research on male choriocarcinoma.

Mildred Claassen, clinical nurse, discussed importance of a patient's case history. This knowledge assists the nurse in providing understanding when attending the patient's physical needs and gives her a better grasp of the individual's behavior in the hospital environment.

Less Than One Percent

Testicular tumors comprise less than one percent of all malignant tumors, Alice Parsons, clinical nurse, pointed out. She said these tumors which react to radiotherapy treatment have the best outlook.

The prognosis remains good even if the tumor has started to spread. Elizabeth Hayes, clinical nurse, said nursing care during the period of intensive diagnosis includes explaining to the patient why certain tests are needed, frequent surveillance of external puncture sites for bleeding, alertness to the possibility of internal bleeding, and checking the patient's vital signs often.

Miss Hayes also said that nurses engaged in cancer chemotherapy research must provide skilled and intensive patient care and be constantly alert for drug-produced side effects.

She pointed out the importance of a favorable emotional climate for the patient during treatment as a determinant of whether the patient will continue follow-up treatment after discharge.

NIH Television, Radio Program Schedule

Television

NIH REPORTS

WRC, Channel 4

Sunday—9:55 p.m.

April 20 and 27

Dr. Alfred M. Sadler, Jr., and Blair L. Soulier, NIH
Subject: Medical and Legal Aspects of Organ Transplants

DISCUSSION: NIH

WGMS, AM-570—FM Stereo

103.5—Friday evenings

About 9:15 p.m.

April 18

Dr. Herbert Swerdlov, chief, Dental Services Branch, NIDR
Subject: Dental Services in NIDR Research

Radio

DISCUSSION: NIH

WGMS, AM-570—FM Stereo

103.5—Friday evenings

About 9:15 p.m.

April 18

Dr. Herbert Swerdlov, chief, Dental Services Branch, NIDR
Subject: Dental Services in NIDR Research
Dr. Gordon Seger Ends 29-Year PHS Career, Retires From NIGMS

Dr. Gordon H. Seger, associate director of the National Institute of General Medical Sciences since its organization in 1962, retired recently, culminating a 29-year career in the Public Health Service.

The last 23 years of Dr. Seger's Government service were with NIH. Northern Michigan University in 1964 awarded Dr. Seger its Distinguished Alumni Award for "significant professional achievement, outstanding citizenship, and unselfish support of worthy endeavors."

In his post at NIGMS, he played a major role in the Institute's development. His responsibilities included liaison with the Nation's scientific community and with numerous advisory groups.

Dr. Seger's assistance to the Institute's training committees in preparing in-depth reports on the status of research in their particular fields resulted in important contributions to the scientific literature.

The reports were started under his guidance several years ago as informal, "inhouse" documents to help keep the Institute abreast of areas of ferment in the basic biomedical sciences.

Discerning a greater value in the reports, Dr. Seger subsequently set up procedures for distributing them as a continuing series to hundreds of interested research scientists, administrators, and educators throughout the country.

The Institute's Council paused during its March review of grant applications and program reports to pay tribute to Dr. Seger. By way of resolution, the Council expressed "great pleasure and honor" for its association with Dr. Seger.

This double stranded helix DNA model was made in Cambridge, England, especially for the National Library of Medicine. The idealized piece of DNA leads to formation of messenger RNA and the specific amino acid sequence in a protein.

NLM Exhibit on 'Genetic Code and How It Works' Open Through June 27

This double stranded helix DNA model was made in Cambridge, England, especially for the National Library of Medicine. The idealized piece of DNA leads to formation of messenger RNA and the specific amino acid sequence in a protein.

Donald C. Parks, BEMT, Speaks On Education Aid at Seminar

Donald C. Parks, Bureau of Health Professions Education and Manpower Training, recently spoke on "Financial Assistance for Education," at the Prince George's General Hospital Careers Seminar. Mr. Parks is executive officer, Division of Health Manpower Educational Services, BEMT.

High school principals and vocational counselors attended the seminar, which was one of the events held to observe the 25th anniversary of the hospital.

Dr. Seger began his career with PHS in 1940 as a health education specialist with the States Relations Division, Washington, D.C.

Previously he had been health education director for the public schools in Flint, Mich., and executive secretary there for the Genesee County Tuberculosis Association.

Initiates Merit System

In 1941 he became chief of State Personnel Administration for the Bureau of State Services, a post in which he initiated the development of personnel merit systems for both state and local health departments.

Dr. Seger joined NIH in 1946 as project review officer for the Division of Research Grants. From 1951 to 1955, he was executive officer for the National Cancer Institute, and from 1955 to 1961 he headed the Extramural Programs Branch for the then National Institute of Neurological Diseases and Blindness.

In 1961, Dr. Seger was chief of the Special Programs Review Branch, DRG, and the following year joined NIGMS.

Dr. Seger received his B.S. degree from Northern Michigan College in 1934, his M.S. (1938) and Ph.D. (1946) degrees from the University of Michigan.

During World War II he served 3 years with the U.S. Navy.
Fluorescent microscopy is valuable in detecting and identifying extraneous virus particles in cell cultures used in vaccine production.

Intense research by DBS scientists strengthens control procedures for processing and storage of blood and its derivatives.

The newborn hamster is preferred for testing potentially oncogenic viruses of animal origin. More than 40,000 hamsters are used annually in research.

Physical standards for biological products are developed for uniform potency in commercial production. Electrophoretic fractionation identifies active components of some complex biologics.

Histologic evaluation of tumor cells is one method used to detect oncogenic viruses.

A "freeway" connects the two DBS buildings more than 100 physicians, biochemists, immunologists, carries out biologics con...

The ultimate aim of the DBS to the improvement of biologics now ways of producing and testing these development of new immunizing agents that, so far, have baffled science.

DBS Director Dr. Roderick Murray and staff meet to discuss and standards for the production and control of biological products.
GICS STANDARDS

Jerry Hecht

This is to apply present knowledge on the market, to find better biologics, and to help in the fights against infectious diseases.

Active components of bacterial products, such as tetanus toxin, tuberculin, and cholera and pertussis antigens, are purified by passage through columns (chromatographic fractionation).

Fertile hens' eggs are used for propagating viruses, such as mumps and measles, in vaccine control testing.

Incubation of virus-infected tissue cultures is an initial step in isolating mumps, rubella, and measles viruses for vaccine testing.

Animals are important in control testing for safety, purity, and potency of biological products. Annually, about 8,600 guinea pigs are used in tests for vaccines, toxins, and toxoids.

Virus neutralization tests in cell cultures are used to determine potency of viral vaccines, such as influenza.

About 2,000 monkeys are tested every year to demonstrate safety and potency of vaccines.
**DRUG RESPONSES**

(Continued from Page 1)

rate and vigor of heart-muscle contractions.

In their studies of aortic beta receptor activity, the scientists tested the ability of two different beta-stimulating agents—iso-proterenol (ISO) and epinephrine (EPI)—to relax previously contracted strips of aortas obtained from various laboratory animals. These included thoracic and abdominal aortic strips from guinea pigs, cats and young and old rats and rabbits.

Both ISO and EPI relaxed thoracic aortic strips from young rats, young rabbits and guinea pigs, but failed to relax those from cats or old rats and old rabbits.

Furthermore, little or no relaxation was elicited by the beta-stimulating agents in abdominal aortic strips from any species tested.

Corollary experiments provided confirmatory evidence that relaxation was due to beta receptor stimulation rather than to some other effect of the test drugs.

The results of the NIH experiments indicate the occurrence of both species and age variation in aortic beta adrenergic receptor activity, and show that in those species possessing them, aortic beta receptor sites reside mainly in the thoracic portion of the aorta.

If applicable to humans, the discovery that aortic beta receptor activity disappears with age may also have great significance with respect to some heretofore inexplicable drug responses of aged patients.

from old rats and old rabbits.

NII Physicians Head Health Law Workshops

NIH physicians headed a number of workshops at the recent annual convention of the Medical Committee for Human Rights.

These sessions, held at the Brookings Institution in Washington, D.C., stressed Federal health legislation. The physicians included Dr. Henry Metzger and Dr. Gil Omenn, National Institute of Arthritis and Metabolic Diseases, and Dr. Melvin Scheer, Division of Research Resources.

Ralph Nader Speaks

The opening address, "Law and Medicine: Alliance for the Nation’s Health," was given by Ralph Nader at the Smithsonian Institution’s Museum of Natural History.

Dr. Joseph F. English, Director, National Institute of Mental Health, was among the participants in a panel discussion that followed Mr. Nader’s speech.

The convention proceedings were coordinated by Dr. John Graef, National Institute of Dental Research.

Eleanor R. Murphy, Charge Nurse of Massachusetts General Hospital’s Respiratory Unit, looks on as a camera crew shoots the film "Threshold," sponsored by the National Institute of General Medical Sciences, which features modern anesthesiology involving research and patient care.

Internat’l Investigators Discuss Epilepsy, Medico-Legal Aspects of Head Injury

Scientists from many countries recently met in Washington, D.C., for the International Conference on The Late Effects of Head Injury, sponsored by the National Institute of Neurological and Communicative Disorders and Stroke, was organized by the World Federation of Neurology and the World Federation of Neurosurgical Societies.

Among the problems discussed were the posttraumatic syndrome, posttraumatic epilepsy, rehabilitation, and medico-legal aspects of head injury.

**Two Million Victims**

Over two million Americans are victims of head injuries each year. Many of these injuries are from automobile accidents, sporting accidents, and gunshot wounds.

Injuries from these accidents are responsible for a tremendous loss of life, and may also result in varying degrees of disorganization within the central nervous system.

The discussion on the posttraumatic syndrome centered around the familiar symptoms of headache, dizziness, irritability, poor concentration, and bad memory.

Investigators have now shown that this syndrome can be produced by neck trauma, such as whiplash injuries, without a blow to the head or loss of consciousness.

Speakers and delegates attempted to distinguish between the posttraumatic syndrome, neurotic reactions which may exaggerate symptoms, and malingering which is thought to occur in only a few cases.

Postmortem tests to determine neurological abnormalities and descriptions of brain pathology provided information on types of brain lesions and clinical symptoms which are produced by injury.

Although the exact relationship between trauma and posttraumatic epilepsy still remains obscure, it is recognized that the degree of brain destruction is the most important single factor.

Complications Develop

In addition, the longer the period of unconsciousness after injury, the more likely it is that such complications will develop.

However, other factors not yet understood may play as great a role in the production of epilepsy. Anticonvulsants have not always proved effective in treating this type of epilepsy; nor has surgical removal of a focal scar been uniformly successful.

Fortunately, over half the cases cease spontaneously, or, with the aid of drugs, may cease; the other one-third of the cases may be free of seizures.

Longitudinal studies of combat and civilian injuries are now yielding data on the development of persistent epilepsy.

Dr. Howard A. Rusk, who is

Five Achieve ‘Special Status’ in March at CC Blood Bank

The Clinical Center Blood Bank reports that 165 units of blood were received from NIH donors in March, and CC patients received 1,600 units of blood.

Five donors achieved a special status. Dr. Ralph D. Gunnel, NINDS, and Glenn R. Maynard, DEG, attained the 2-gallon mark.

Joining the Gallon Donor Club were: John N. Sheagren, NIAID; Dr. Eugene Streicher, NINDS, and Samuel T. Watkins, NLM.
Eunice Given Retires, CC Nurse Since '56 Had 33-Year Career

Eunice Given, clinical nurse for the past 13 years at the Clinical Center, retired recently after 23 years of Federal service and a 33-year nursing career.

Since joining the CC staff in 1956, Mrs. Given has been a member of two Heart Nursing Service research teams.

Before coming to the CC, she spent 10 years as a nurse at the Veterans hospital in Richmond, Va., and 10 years in private practice.

About 30 of her friends and co-workers honored her at a retirement ceremony recently in the CC. As mementos of the occasion, she received a gold circle pin and a handbag.

Mrs. Given now plans to spend more time with her husband who also retired recently. She will devote additional attention to her hobbies—collecting antiques, figurines, and unusual cut glass vessels.

A trip to Florida during April is in her immediate plans.

Successful Transfusions Now Possible With Use Of Compatible Platelets

A means of providing compatible platelets for patients whose bodies reject transfusion of this life-saving blood fraction has been developed by scientists of the National Cancer Institute.

Drs. Frank C. Grumet, Ronald A. Yankee, and G. Nicholas Rognentine, Jr., reported on the technique to prevent hemorhage at the 69th annual meeting of the American Association for Cancer Research held March 23-25 in San Francisco.

The scientists adapted histocompatibility tissue-typing methods used in kidney and heart transplants to platelet transfusions.

White blood cells from relatives of platelet-depleted patients were typed to determine their similarities to the patient's own cells.

Patients with aplastic anemia were used in the study. Platelet transfusions previously have been effective in stopping bleeding and elevating low platelet counts in patients with this disease.

Transfusions Lose Effect

However, patients receiving transfusions over long periods frequently lost the benefit from each successive transfusion, and have a high risk of fatal intracranial or massive gastrointestinal hemorrhage.

After conventional transfusion therapy for 8 weeks, blood analyses of eight patients with aplastic anemia indicated few platelets remained when measured one hour or 20 hours after transfusion.

Platelet Count High

However, blood analyses indicated that the platelet count after transfusion from "matched" relatives—those with identical white blood cell types—showed approximate median recoveries of 90 percent at one hour and 50 percent at 20 hours.

As the difference in white cell type became greater, the posttransfusion platelet count dropped proportionately until it neared zero.

Dr. Grumet said this study indicates that with the transfusion of compatible platelets, these patients showed no signs of bleeding or transfusion reactions.

With two transfusions each week, the patients were able to leave the hospital and return to normal lives in contrast to ordinary confinement to hospital care for long periods of time with conventional transfusions.

With compatible platelet transfusions, he said, a greater margin of safety is achieved and transfusion costs are about one-fifth that required for conventional transfusion.

DCRT’s Hybrid Computer Provides Tool For Solving Many Biomedical Problems

The Computer Systems Laboratory of the Division of Computer Research and Technology is attempting to acquaint the NIH scientific community with its hybrid computer.

The computer has been in operation for over a year, but many people are still unfamiliar with some of its aspects.

Although it is doing heavy duty for standard digital computation, its hybrid capabilities are not being used to greatest advantage.

Because the computer provides a powerful tool for solving biomedical problems involving the simulation of biological systems, collaborative projects are being encouraged within the limits of supporting resources.

Computers Communicate

The computer is housed in Room 111111 of the Clinical Center. As its name implies, it consists of an analog and a digital computer coupled so the two operate as a unit.

The coupling or linkage device allows the computers to communicate with each other by translating the "language" of each machine to that of the other.

Digital computers are most proficient for storing and retrieving information, calculating distinct arithmetic quantities, and performing operations involving logic and decisions.

All of these functions are performed one after the other.

The analog computer can perform multiple operations simultaneously, and works best for such tasks as adding two or more time varying signals, multiplying variables by constants or variables by variables, and integrating time varying signals.

When using the hybrid, a problem can be divided and its parts assigned individually to the method best suited for solving them.

Because of the nature of the hybrid computer, problems which can be solved by it fall into two categories.

One includes the entire analog-to-digital conversion operation, which prepares analog data for later digital analysis.

The other gets involved in the complex mathematical problems of simulating physiological systems and investigating them under various conditions.

In this second area, the analog computer is called upon to rapidly solve equations representing the system of interest, while the digital computer is used for its ability to logically determine the conditions for which the equations are being solved.

Inquiries about the hybrid computer can be made to the Hybrid Computer Group, Ext. 65641.

Dr. Kirklin and Corday Named to Heart Council

Dr. John W. Kirklin and Dr. Elliot Corday have been named to the National Advisory Heart Council, National Heart Institute. The appointments were announced by Dr. Robert Q. Marston, Director of NIH.

Dr. Kirklin, who is professor and chairman of the Department of Surgery, University of Alabama Medical Center, is a pioneer in open-heart surgery. He has developed a number of operations for congenital heart disease.

Dr. Corday, associate clinical professor of Medicine at the University of California at L.A., is particularly interested in drug therapy for cardiac arrhythmias. Currently, he is screening drugs for their antiarrhythmic properties.

Robert Romanoff, a DCRT computer programmer, uses the digital console typewriter to correct a hybrid problem as it runs. The digital console is at extreme left. Next to it is the analog tape drive. The third piece of equipment is the linkage device, and on its right is the analog computer.
Proposed Rubella Vaccine Rules Bring Prevention Step Closer, Says Finch

In a move that brings "one step closer to the prevention of a disease that has caused an untold number of tragic births," DHEW Secretary Robert F. Finch issued proposed regulations which establish standards for the production of a German measles (rubella) vaccine.

These regulations, prepared by the Division of Biologics Standards, were published April 3 in the Federal Register.

Technical, step-by-step production methods are outlined and standards of safety, purity, and potency are established for the vaccine.

Interested persons have 30 days to comment. After comments are considered, final regulations will be published in the Federal Register. Subsequently, a German measles vaccine that meets the standards can be licensed.

The regulations proposed apply to vaccines containing a live virus strain known as HPV-77, which is grown in either duck embryo or dog kidney cell culture systems.

Experimental vaccines produced in accordance with the standards have undergone extensive community testing in the United States and abroad.

CANCER DRUGS

(Continued from Page 1)

The first panel discussion on equal employment opportunities at NIH was held as part of a leadership training course for Division of Research Services supervisors. Another panel on employee-management relations was composed of DRS personnel (1 to r): Syie Pointer, Grounds Maintenance and Landscape Section shop steward; R. R. Holliday, associate director for Engineering Resources; Charles Sandeen, personnel officer, and Herbert Keene, also shop steward for GM&L.

Dr. Abraham Cantorow, Research Planning Officer of the National Cancer Institute, was elected president of the American Association for Cancer Research on March 24. His election took place in San Francisco at the society's 60th annual meeting.

died. Neomycin alone was not toxic.

Two other drugs administered with neomycin—cyclophosphamide and 5-fluorouracil—were less toxic than when given without the antibiotic.

Another drug—6-Mercaptopurine—produced three different effects in three different trials.

The current concept behind antibiotic therapy is that the antibiotics destroy potentially harmful normal body bacteria before they can infect the body as a result of the lowered resistance produced by the cancer drugs.

The NCI investigators believe that normal flora influence the metabolism of cells treated by anticancer drugs. Killing this flora may make the cells more sensitive to cancer drugs thus producing the variance in side effects.

In light of their studies, the investigators recommend that, before clinical use, studies be undertaken to reevaluate various dosages of each antibiotic with each cancer drug.