Health Benefit Changes Effective Next Month Will Improve Coverage

Increased benefits and premiums and a greater Government share of premium costs will accrue to most employees enrolled under the Federal Employee Health Benefits Program early in the new year.

The changes in benefits are primarily improvements to close the gaps in coverage and to raise benefit payments for escalating medical care costs.

Higher premiums go into effect along with the increased benefits. However, a recently enacted law will raise the Government's share of the premium costs to a permanent average of 40 percent.

More Details Later

For some employees, the net effect will be small decreases in the premium deductions on their pay statements.

The changes will be covered in more detail in a Civil Service Commission pamphlet, Information About Plan Changes Effective January 1971, which will be distributed to all employees in late December.

Each employee covered under the program should carefully review (See BENEFIT CHANGES, Page 5)

Enzyme Defect in Cancer Cells Identified In Joint Study by NINDS-NCI Scientists

A team of NIH researchers has identified an enzyme which has greatly reduced activity, and in fact may be absent in cells which have been transformed by DNA viruses into cancer cells.

The discovery of this biochemical defect may explain how these cells become transformed and multiply uncontrollably, and may also provide some clues to restoring them to normal.

Dr. Roscoe O. Brady of the National Institute of Neurological Diseases and Stroke and Dr. Peter T. Mora of the National Cancer Institute collaborated in leading a team of researchers in this study.

The team began by studying the simian Virus 40 (SV40) and polyoma virus. Scientists have known for a long time that these two DNA viruses cause the formation of tumors when they are injected into rodents.

Also, when researchers treated cells in tissue culture with the two DNA viruses, they found that the normal cells lost a number of their original characteristics and acquired uncontrolled growth properties in culture after they were transformed by the viruses.

Virus 'Take Over' Cells

The viruses do this by "transforming" or taking over the genetic machinery of normal cells and influencing the chemistry of the cell membranes and the ability of these cells to produce tumors when injected into laboratory animals.

Drs. Mora and Brady noted that certain complex lipids (fat-like substances) called gangliosides, which are highly concentrated in cell walls, changed markedly after the cells were transformed by the two tumorigenic DNA viruses. The complex chemical substances changed to a much simpler, primitive chemical form.

Further study revealed an exact biochemical change in the virally transformed cells. Cells transformed by a DNA virus no longer manufacture a key enzyme called "amino-sugar transferase," an enzyme needed if gangliosides are to be produced.

This lack of ganglioside synthesis coincides with a profound alteration in the surface properties of the transformed cells.

Employees Alerted to Plans to Initiate Strict Enforcement of Parking Rules

By Jane Stafford

January is the month! The month that starts the New Year and also the month that starts—and hopefully finishes—NIH registration.

Registration for what? Why, for parking, of course. All employees will have had official notification in a memo from the NIH Director, Dr. Robert Q. Marston, announcing plans for strict legal enforcement of the rules and regulations governing conduct and traffic on the reservation.

Registration forms (NIH 1234) will be sent through timekeepers. After the forms have been properly filled out and returned as directed, numbered NIH parking permits will be issued.

The registration cards will be computer-processed with the help of the Division of Computer Research and Technology.

Serial numbers on parking permits.

Employees will be required to display permits on the windshield in the blind spot directly behind the rearview mirror.

(newspaper ad)

Enzyme Defect in Cancer Cells Identified In Joint Study by NINDS-NCI Scientists

By Bori Attis

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(newspaper ad)
Several Units of NIGMS Move to Building 31

The Office of the Director of the National Institute of General Medical Sciences, Dr. DeWitt Stetten, Jr., has moved to the fourth floor of Building 31.

Dr. Stetten, who previously worked in Building 31, has moved to a new office on the fourth floor. The move is part of a larger renovation of Building 31, which is expected to be completed in the near future.

BENEFIT CHANGES

(Continued from Page 1)

also employees should keep the pamphlet for changes in the plan in which he is enrolled.

All premium changes become effective Jan. 10, 1971. The new deductions (shown below) will be made from paychecks received Feb. 2.

The pamphlet for changes in the plan in which he is enrolled.

Also, employees should keep the pamphlet (BRI-117) as part of their health benefits plan contract.

All premium changes become effective Jan. 10, 1971. The new deductions (shown below) will be made from paychecks received Feb. 2.

1. Employees who are married to a non-employee or who are single shall receive a single premium.

2. Employees who are married to an employee shall receive a single premium and an additional premium for each dependent covered.

3. Employees who are married to another employee shall receive a single premium and an additional premium for each dependent covered.

4. Employees who are married to an employee and who have no dependent covered shall receive a single premium.

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ENZYME DEFECT

(Continued from Page 1)

Normal cells stop growing when they come in contact with each other; however, transformed cells like other cancer cells continue to grow up against each other and into multi-layers. Also, the transformed cells display different antigenic properties than normal cells.

"This is the first specific biochemical change which was found to be associated with transformation by both tumorigenic DNA viruses," Dr. Brady said. "We now need to find out how important these changes are in relation to human cancers, particularly those that may be of viral origin."

RNA Viruses Under Study

The researchers are now studying RNA viruses that may be implicated in some human cancers to see if similar biochemical changes occur in RNA transformed cells. "We need to know what shuts off the enzyme in the transformed cells and whether or not it can be turned back on," Dr. Brady added, "or whether we can add a chemical substance to these tissues which will restore them to normal."

Working with Dr. Brady and Dr. Mora in this study were Drs. Federico A. Cumar and Edwin H. Kolodny, NINDS, and Vivian W. McFarland, NCI. Their findings were published in the Proceedings of the National Academy of Sciences in October 1970.

Duplicate Bridge Starts Earlier Next Month

To add 15 minutes of playing time, the duplicate bridge game sponsored by the NIH W. Association in the Bldg. 1 cafeteria every Wednesday night will start at 7:45 instead of 8 p.m. beginning Jan. 6.

All NIH bridge players and their bridge-playing friends, novice or expert, are welcome. Participants should attend as partners. The cost is $1 per evening. Winners and runners-up receive official rating-point certificates from the American Contract Bridge League.

For further information, call Dick Ray, 861-1459, or Bob Brothers, 946-6550.

Intaglio Prints Now on Display

Intaglio prints by Phyllis Hoffman, wife of Dr. Harold Hoffman, CNCI, will be on display in Bldg. 31, A Wing lobby until Dec. 15.

With the prints are brief explanations of various plates: copper, plexiglas, and acetate.

Mrs. Hoffman will answer queries of employees who may call her on 946-5629.

Christmas Festivities for Patients at CC Bring Promise of Holiday Spirit, Cheer

CC patients join in with Christmas carolers whose visit every year at this season means so much to them.

Festivities for Clinical Center patients celebrating the 1970 holiday season promises to bring good cheer and bright spirit.

A Christmas shoppers' bingo on Dec. 11 is the first event in an extensive program planned by the CC Patient Activity Section.

Following, on Dec. 14, is a Christmas-Hanukah concert with music traditional to both holidays presented by the U.S. Naval Academy chorus and Cantor Raphael Edgar.

The program will be broadcast over the NIH station, and may be heard on bedside radios of patients unable to attend.

For those patients who have not completed their Christmas shopping, there will be a Christmas shoppers' sprees via bus to Tyson's Corner on Dec. 16, or a Christmas craft workshop Dec. 17 for the "elves" who want to make something for Mom or Dad.

Holly Hop for Adults

On the 17th there will be a Holly Hop. This "dance-in" is for the adults, but the big party of the year for the youngsters will be held on the 19th. As in past years, the Clifton Park Citizens Association is assisting Santa and his helpers.

Dec. 18 has been designated Trim-the-Tree Day, with the Patient Activity Section promising help when emergency decorations are needed.

Other activities scheduled include a Protestant carol service, children's Christmas story hour, and visits to CC nursing units on Christmas Eve by a caroling group from the community.

Other Activities Listed

Also, during Christmas week a trip is planned to view the National Christmas Tree and community lighting displays.

To round out the festivities, on New Year's Eve, there will be an early evening party for young patients, and a later party for adults.

In addition, feature films, season bingos, and religious services have been scheduled for patients.

Dr. Myers, NINDS Lab Chief, Lectures Abroad

Dr. Ronald Myers, chief of the NINDS Laboratory of Perinatal Physiology, is delivering the Purkinje Lecture at Bratislava, Czechoslovakia, this week at the invitation of the Slovak Academy of Sciences.

His lecture, "The Problem of Perinatal Brain Damage," describes his studies in Rhesus monkeys duplicating the physiological and pathological changes that occur in relation to perinatal damage in humans.

Visits Laboratories

Before delivering the talk, Dr. Myers toured laboratories throughout the country for 8 days as a guest of the Slovak Academy of Sciences.

During the week prior to his trip to Czechoslovakia, Dr. Myers delivered a lecture at the University of Aarhus, Jutland, Denmark and, in West Germany, he was the invited speaker of the German Society for Perinatal Medicine where he spoke on "Experimental Models for Cerebral Palsy and Mental Retardation."

On his way back to this country, Dr. Myers will stop in London to deliver a lecture at King's College Hospital and Medical School.

Rhesus Monkeys Used

Here at NIH, Dr. Myers and his colleagues are using Rhesus monkeys as models to learn more about cerebral palsy—a series of brain-centered ailments, all of which affect muscular control.

They are also studying pregnant monkeys, monitoring such parameters as fetal hemoglobin saturation, fetal blood pressures, and oxygen content of the blood as delivered to the tissues as indicators of fetal condition during labor.

Ultrastructure studies are also being carried out on the central nervous system of developmental stages of the Rhesus monkey from the 49th gestational day through birth.

Santa will be on hand for the CC Open House on the 21st to take orders given by the patients instead of the doctors and nurses, who are guests of their patients on this important occasion.
PARKING
(Continued from Page 1)

mits will be assigned to each regis-
tered motor vehicle. They bear no
relation to employee numbers.

For general parking, the permits
will be blue; and for employees en-
titled to reserved parking, red. Re-
erved parking permits for person-
nel at the Westwood Building will
be brown.

All vehicles other than those of
visitors must bear these permits,
which must be displayed on the
vehicle's rearview mirror. Failure to
display the permit is a violation of the
regulations.

Permit Has Many Uses

The permit alerts the guard that
the vehicle is the property of an
employee and legally parked. It
also speeds up service in case lights
arise.

Special parking areas are being
reserved for visitors' parking, and
employees will be notified of the
day.

After registration is completed,
there will be a short period during
which guards will issue warning
notices to violators pointing out the
nature of the violation. This warn-
ing period is designed to alert per-
nel and to help prepare them
for adjudication.

The actual tickets will carry
with them the requirement for post-
collateral or requesting a hear-
ing before the U.S. Commissioner
for adjudication.

Both warning notices and actual
tickets will be issued only by guards who have been appointed
by the U.S. Special Policemen. These
people have had special training and

Study Finds Urokinase-Heparin Regimen
More Effective in Dissolving Blood Clots

The clot-dissolving agent urokinase plus anticoagulants outperformed
anticoagulants alone in releasing pulmonary blood- vessel obstruction and
improving blood flow to the lungs in accordance to results of the recently
completed Urokinase Pulmonary Embolism Clinical Trial.

The study, the first published
controlled clinical study of the clot-
dissolving capacity of any fibrino-
lytic agent, was carried out by the
National Heart and Lung Institute
through contracts awarded by its
National Blood Resource Program.
It involved a total of 160 patients
in 16 cooperating institutions.

The study results were reported
in mid-November in Atlantic City
at the American Heart Association
Scientific Sessions by Drs. John
Murray, of the University of Wash-
ington, and Sol Sherry, of Temple
University.

Of the 160 patients, 82 received
12-hour urokinase infusions fol-
lowed by intravenous heparin for
at least 5 days.

The 78 controls received only
intravenous heparin for a like period.

Thereafter, both groups were main-
tained on oral anticoagulants.

There was a high rate of clinical
improvement in both groups; but
objective evidence of improvement,
on the basis of X-ray visualization
of the pulmonary blood vessels
after 24 hours, was more pro-
testing, and they will be identified
by special badges.

Employees will be notified of the
start of actual ticketing by desk-
to-desk memoranda.

A survey of vacant spaces in the
parking lots on the reservation in-
dicates that there is more than ample parking for all personnel
who drive to work. Recently there
has been an average of over five
hundred vacant parking spaces each
day.

Leprosy patients at the Eversley-Child Sanatorium in Cebu City, Philippines,
participate in chemotherapeutic drug trials, part of the U.S.-Japan Medical
Science Program. The studies—supported by a contract between NIAID and
the Leonard Wood Memorial for the Eradication of Leprosy—are conducted at
the hospital operated jointly by the Philippine government and Leonard Wood
organization. George S. Yee (front row left), NIAID, project officer for the
leprosy program, observes hospital physician Dr. T. Fajardo, Jr. examining a
patient. Dr. Gerald Walsh, of Leonard Wood Memorial, is on the right.

Dr. Talbot joins DRG's
Grants Associates for
One Year of Training

Dr. Bernard Talbot, a native of
New York, N.Y., has joined the
Grants Associates Program for a
year of training in grants adminis-
tration.

He comes to the Division of Re-
search Grants from Rome, Italy,
where he recently com-
pleted a NATO postdoctoral fel-
lowship at the Uni-
versity of Rome.

In 1958, Dr. Tal-
bot graduated mag-
na cum laude from
Columbia University, and in 1962
he received his M.D. degree from
Columbia University Medical
School.

He received his Ph.D. degree in
Biophysics-Molecular Biology from
the Massachusetts Institute of Tech-
nology in 1967.

From 1963 to 1968, Dr. Talbot
taught Optical Methods in Biophys-
ics and Electron Microscopy at
MIT.

No stranger to NIH programs,
he was an NIH postdoctoral fellow
from 1962 to 1965, a special fellow
from 1965 to 1966, and a postdoc-
toral trainee in Biophysics at MIT
from 1966 to 1969.

A member of Phi Beta Kappa,
Dr. Talbot is a member of Sigma
Xi, the American Association for
the Advancement of Science, and
the American Chemical Society.

First International Congress
Of Immunology Advance
Program Now Available

The First International Congress
of Immunology will be held in
Washington, D.C., Aug. 1-6, 1971,
under the auspices of the Interna-
tional Union of Immunological
Societies.

It is being organized by the
American Association of Immunolo-
gists.

The congress's format will in-
clude 80 conference-workshops of
limited attendance instead of the
usual 10-minute paper sessions.

These workshops will explore
progress in specific problem areas.
Workshop accomplishments will be
evaluated and summarized at open
sessions.

The congress is seeking to pro-
vide, for the first time, a compre-
hensive exposition of immunology.
It will stress the multi-disciplinary
science's basic principles as well as
its varied subspecialties.

The advance program and regis-
tration forms are now available.

For information, write to Secret-
ariat, First International Congress
of Immunology, 9650 Rockville Pike,
Bethesda, Md. 20014.
Lois K. Kryger Receives Award for Achievement From Dental Assistants

Lois K. Kryger, Division of Dental Health, BHME, was presented the Achievement Award by the American Dental Assistants Association at its 47th Annual Session last month in Las Vegas.

A member of the association since 1946, Miss Kryger was honored for her "outstanding work for the ADAA and for Dental Assistants."

Miss Kryger's contributions include development of the technique used in instrument exchange between the dentist and dental assistant.

Also, she initiated the change in job classification of dental assistants in the Dictionary of Occupational Titles from the "Clerical and Sales" series to the "Medical" series.

Miss Kryger wrote five of the eight refresher course outlines for dental assistants which are distributed by the ADAA.

Yerkes Center Scientists Discuss Nervous System Of Monkey in New Book

Two researchers—Dr. Sohan L. Manocha and Totada R. Shantha—at the Division of Research Resources' Yerkes Primate Research Center at Emory University, Atlanta, have published a new textbook, Macaca Mulatta: Enzyme Histochemistry of the Nervous System.

The book discusses the nervous system of the Rhesus monkey from the viewpoints of anatomy, cell structure, and histochemistry. It also describes the fiber systems within the nervous system, their enzymes, and the significance of their locations.

Although similar studies have been performed on mammals, the book is the first to comprehensively examine the enzyme histochemistry of a primate's brain, according to a foreword by Dr. Geoffrey Bourne, Director of the Yerkes Center.

NCI Scientist Reports Possible Method For Treating Acute Leukemia Patients

Evidence of a chemical difference between normal and leukemic human cells—and a possible method of utilizing this difference in treating acute leukemia patients—has been reported by Dr. Robert C. Gallo of the National Cancer Institute's Human Tumor Cell Biology Branch.

Dr. Gallo reported that, in testing white blood cells called lymphocytes from three patients with acute lymphocytic leukemia, he and his colleagues found that the cells of all three patients contained a catalyst or enzyme called RNA-dependent DNA polymerase.

By contrast, the enzyme was not detected in white blood cells obtained from 48 normal blood donors, which were pooled into three groups for testing purposes.

The enzyme from the leukemic cells has now been obtained in a relatively pure form (250-fold purification) after removal of most other components of the cells.

Significantly, in June of this year, the enzyme RNA-dependent DNA polymerase was reported to be present in several RNA viruses that cause cancer in laboratory animals.

Drs. Howard M. Temin and Satoshi Mizutani of the McArdle Laboratory for Cancer Research, University of Wisconsin, and Dr. David Baltimore of the Massachusetts Institute of Technology, reported its presence in two such viruses.

Identified in 6 Viruses

Dr. Sol Spiegelman, supported by a contract from NCI's Special Virus Cancer Program at Columbia University College of Physicians and Surgeons, identified the enzyme in a total of six cancer-causing RNA viruses, but not in other viruses which do not cause cancer.

Because this enzyme seems always present in RNA tumor viruses of animals, its discovery in cells from leukemia patients is considered good supportive evidence that viruses are associated with cancers of man.

At the same time that Dr. Gallo and his colleagues, Drs. Sue Yang and Robert Ting of Biometrics Research Laboratories, a division of Litton Industries (also under NCI contract), were discovering the enzyme in leukemic human cells, St. Louis University virologist Dr. Maurice Green detected the enzyme in animal cells that were made cancerous by an RNA virus that could no longer be recovered from the cells.

Dr. Green, working within the Human Special Virus Cancer Program, then attempted to block the enzyme's activity in the cancer-transformed animal cells by means of an antibiotic called Rifampicin, known to inhibit a DNA virus called vaccinia virus.

When he found that some derivatives of Rifampicin were potent inhibitors of the enzyme, he advised the NCI research team of his findings.

Dr. Gallo, reported on his research at a colloquium held at the Pasteur Institute in Paris.

Dr. Gallo and his colleagues set out to determine whether the Rifampicin derivatives would be effective against the human leukemic enzyme.

They found that although Rifampicin itself was able to block the enzyme activity only to a small degree, one of the related compounds (3-deoxymethyl rifampicin) was able to inhibit it completely.

The compounds were made by Gruppo Lepetit Company of Milan, Italy, a subsidiary of the Dow Chemical Company.

Caution Expressed

Dr. Seymour Perry, NCI Associate Scientific Director for Clinical Trials, emphasized that thus far inhibition of the enzyme has been demonstrated only in test tube experiments.

Now, derivatives of Rifampicin as well as other compounds must be evaluated for possible effectiveness against cancers in animals.

Subsequently, they must be demonstrated to be relatively safe before they could be evaluated in the treatment of leukemia and possibly other malignancies in man.

COUNCIL

(Continued from Page 2)

Conference Will Explore Multimedia Techniques For Health Education

The first national conference to explore the combined use of multimedia communications techniques in health sciences education will be held next summer.

"Media '70s—A National Conference on Multimedia in the Health Sciences," will be sponsored by the Bureau of Health Manpower Education and the National Library of Medicine.

Scheduled July 18-21, 1971, in Cincinnati, Ohio, the program will be designed to demonstrate how audiovisual concepts, closed-circuit television, computers, and programmed instruction systems can be combined to improve instruction in the health sciences.

The sessions will investigate ways to create a teaching and learning environment which will shorten length of formal instruction while allowing the student to utilize his full capacity to learn.

"Although the use of multimedia instructional aids in general education is an accepted fact," BHME Director, Dr. Kenneth Endicott, said, "it has had slow acceptance in the health sciences."

Dr. Endicott pointed out that the proposed conference will fulfill the need of faculty and staffs for exchange of information about availability and effectiveness of these instructional aids at other schools.

The meeting will also enable users to be in contact with manufacturers of the various equipment involved.

Approximately 800 faculty members, training directors, and specialists from medical, dental, nursing, pharmacy, and other health schools, hospitals, military and Veterans Administration facilities, and colleges and universities involved in programs leading to postgraduate health programs are expected to attend.

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COUNCIL

(Continued from Page 2)


Laurie Cochran, NINDS, hands her donation for the "Davis Plan" to James B. Davis, OAS Director and originator of the plan. Instead of exchanging Christmas cards, employees donate money to the Patients' Welfare Fund to help CC patients and their families.
New Technique Helps to Take Guesswork Out of Testing Corneas for Transplants

A new method now takes the guesswork out of evaluation of donor material for corneal transplants. This safe, practical technique is based on the finding that trypan blue dye stains only damaged corneal cells without harming healthy cells.

Dr. Frederick W. Stocker and a team of corneal transplanters and a Duke University Medical Center have established the safety of this stain for clinical use. They were supported in part by the National Institutes of Health and the National Heart, Lung, and Blood Institute.

Previously, besides examination with the biomicroscope, physicians tested donor corneas to determine whether they were healthy enough to transplant by using a para-nitroblue tetrazolium stain.

Stain Affects Cornea

This stain, however, makes the cornea being tested unsuitable for grafting. Physicians had to assume that the second cornea from the same donor—the only one they could use—was in the same condition as the one tested.

This method reduced the number of corneas available for transplants. The second cornea was usually, but not always, as healthy as the first one tested.

With the new method, researchers use the dye test on the same cornea that will be used in the transplant and determine exactly how healthy that cornea is. The dye stains only the dead or damaged cells. After the cornea has been stained, the physician examines it under a microscope. The damaged cells appear blue and the unstained healthy cells are only faintly visible.

Endothelial dystrophy, corneal guttata, can also readily be detected by this method.

Trypan Blue Dye Harmless

Extensive tests of the trypan blue dye with both rabbit and human corneas showed it had no harmful effects on healthy tissue. In addition to other tests, the researchers stained healthy human corneas that were not going to be used in transplants within 2 to 3 days after the death of the donor and found that 90 percent of the cells were normal—an indication that the dye does not damage tissue when it is applied. They also tested a commercial solution of the dye and found that it, too, did not harm healthy corneal tissues.

After careful laboratory testing, Dr. Stocker and his colleagues used the new stain successfully in a number of transplant cases.

They point out that this stain experience in research second.

For information and a catalog, write to: Registrar, EC/IBR, 2429 Linden Lane, Silver Spring, Md. 20910, or phone 385-3015.

Simple Diagnostic Test Is Developed to Detect Toxic Digitalis Reaction

Researchers have developed a fast, simple diagnostic tool using saliva that can save lives by allowing physicians to detect a toxic reaction to digitalis. This patient could then be suffering heart symptoms because more of the drug is needed.

However, the same signs also can indicate a toxic reaction to the drug itself, in which case therapy must be changed.

Dr. Stephen Wotman and a team of researchers at Columbia-Presbyterian Medical Center in New York City have developed a fast, simple method using whole saliva that can diagnose digitalis toxicity.

The study was supported by the National Institutes of Health and the National Heart, Lung, and Blood Institute as a part of its research program on salivary gland secretions.

Potassium Levels Rise

Dr. Wotman discovered that the level of potassium in whole saliva rises significantly in cases of digitalis toxicity and that simply measuring the potassium level in saliva can detect this.

In a study of 47 patients, he found that the potassium level actually rises in all patients taking digitalis but that the increase was significantly greater in patients with digitalis toxicity than in other patients on this drug.

The 47 study patients included 13 heart patients suspected of digitalis toxicity, 26 heart patients on digitalis with no apparent toxicity, and eight healthy subjects.

The researchers obtained the saliva to measure the level of potassium and other ions by first putting a strip of filter paper containing citric acid on the patient's tongue.

When this paper stimulated the flow of saliva they used a syringe with no needle to extract the fluid as it pooled below the lower front teeth.

The researchers then studied the saliva samples by atomic absorption spectrophotometry, although flame photometry tests which are available in most hospitals for blood analysis could be used as well.

The analysis showed that all of the heart patients taking digitalis had higher potassium levels than healthy people, but that the 13 patients with suspected toxicity had still higher levels.

When their therapy was changed, the 13 patients improved and their potassium levels dropped to the level of patients on digitalis without signs of toxicity.

Where possible, the researchers used a far more complicated blood test available at the medical center to confirm toxicity in these patients before their therapy was changed.

Dr. Wotman reported on these findings at the 43rd Scientific Session of the American Heart Association last month.

Associated with Dr. Wotman in this research were Drs. J. Thomas Biggers, Irving D. Mandel, and Herbert J. Bartlestone.
2 CC Employees Cited For Devoted Service

NCI Initiates Study to Improve Research To Identify Carcinogens in Environment

A special study designed to improve the efficiency of research for the identification of carcinogens, or human environment will be initiated.

**DR. BRADY**

(Continued from Page 1)

Dr. Brady is most well known for his work on the family of hereditary diseases, the sphingolipidoses. The cause of each of these diseases is the lack of a specific enzyme which allows the build up of a fatty material called sphingolipid in the tissues.

He and his colleagues at the Children's Hospital are responsible for the discovery of the exact enzyme missing in four hereditary diseases: Gaucher's, Niemann-Pick, Fabry's, and Tay-Sachs.

**Accurate Diagnoses Possible**

By uncovering the missing enzyme in each of these neurologically related disorders, Dr. Brady has made possible the accurate diagnosis of these diseases, even before birth.

Through enzyme assays based on Dr. Brady's work, prenatal tests can be performed to determine whether a fetus has any of the disorders. In addition to allowing the diagnosis of patients with this disease in utero, and thus facilitating genetic counseling, Dr. Brady's work has also been a key factor in identifying carriers of the diseases.

Although no therapy has yet been found for this series of diseases, Dr. Brady will outline in his lecture the potentialities for treating these disorders and the directions which therapeutic procedures might be expected to take.

In addition to his work in these diseases, Dr. Brady and his colleagues at NIH have made some discoveries which may have an important impact on cancer research.

**Identify Missing Enzyme**

They have identified a missing enzyme in cells which have been transformed by DNA viruses into cancer cells. This is the first biochemical change found associated with structural alterations of cells caused by DNA virus transformation.

This biochemical change may help explain how cells become cancerous and invasive and multiply abnormally. Dr. Brady will describe in his lecture which may provide clues to restoring the cells to normal.

The G. Burroughs Mider Lecture was established in 1968 by the scientific directors of NIH to honor Dr. Mider for his work. The award is made annually to a scientist who has contributed significantly to the biomedical research literature of NIH.

Although the $300,000 contract includes provisions for the use of

Latest Participants in NIH Visiting Scientists Program Listed Here

11/12—Dr. Fumiyoshi Ishikawa, Japan, Section on Organic Chemistry, School of Public Health, The University of Tokyo, Japan.

11/13—Dr. Mohamed El Sayed Omar, Egypt, Section on Primate Malaria, Sponsor: Dr. James J. Kennedy, Bethesda, MD.

11/19—Dr. Najmieh Ijiba, Japan, Laboratory of Pharmacology, Sponsor: Dr. Henry J. Fales, Bethesda, MD.

Dr. James Kennedy Dies; Was NIDR Branch Chief

Dr. James J. Kennedy, a Bethesda dentist, died Nov. 24.

Dr. Kennedy, formerly a dental surgeon at the National Institute of Dental Research, served for a period as chief of NIDR's Clinical Investigations Branch.

A native of Michigan, he graduated from the University of Michigan in 1949 and earned his D.D.S. from Northwestern University.

Before joining the NIDR staff, Dr. Kennedy was an assistant professor of Pedodontics at Northwestern University and held the rank of captain in the U.S. Army.

Mory Ross, CC Environmental Sanitation Department, receives gifts and best wishes at a ceremony marking her retirement after 29 years of Government service—the last 7 as an elevator operator in the Clinical Center. John A. Stonmore, ESC Day Service Unit Supervisor, presents a card bearing signatures of her many friends and colleagues.

a computer, this will not be primarily a computer study, but rather an analysis of the logic steps required.

The SRI team of experts will be under the direction of Arthur McGee, principal investigator.
New Study Supported by Dental Institute May Reveal How We Taste Sweetness

How do we know something is sweet? By what chemical steps does a substance in the mouth register the sensation of sweetness in the brain? Do animals have the same sense of taste as people, or are they taste-blind to certain flavors, much as some people are colorblind to certain waves of light?

Dr. Steven Price at the Medical College of Virginia, Richmond, will study these questions with grant support from the National Institute of Dental Research.

Dr. Price believes a sweet-sensitive protein he and his colleagues have found on the surface of cows' tongues is the first chemical receptor to combine with various sugars in a cow's food.

Seeks Pattern

He now seeks to determine whether or not different species of animals share a common sweet-sensitive protein, and hopes to learn something of the evolutionary pattern of taste development.

Knowing how cows avoid noxious foods and are attracted to wholesome ones may help in determining how people accomplish the same thing.

Another possibility Dr. Price hopes to study later is whether the sweet-sensitive protein may also be found on the surface of the intestine, in the liver, or in the brain—wherever sugar molecules are captured, transported, and transformed to supply energy as it is needed in the body.

If this should be the case, the protein would have much greater significance than as a first step in conveying taste messages of sweetness.

Because it is accessible on surfaces of the tongue, it is easier to study first as an element of taste than of energy conversion.

Drug Combinant Widely Used for Birth Control Causes Defects in Mice

Scientists doing basic pharmacological studies on a drug of the National Institute of General Medical Sciences have disclosed that norethynodrel, a drug combiant used widely for birth control purposes, causes a variety of fetal birth defects when administered to pregnant mice.

Scientists Cautious

The scientists cautioned, however, that no conclusion regarding human exposure and fetal development can be made on the basis of these findings.

Three different groups of pregnant mice totaling 300 animals were tested, some with the drug itself and others with pure forms of one or another of the metabolites.

Examinations of their litters one day short of the normal 19-day mouse gestation period revealed that up to 64 percent of the fetuses displayed severe developmental abnormalities.

Birth Defects Noted

Among the birth defects observed were malformed brains and skulls, cleft palates, and a variety of distortions in the development of eyes, ears, and sex organs.

The intrauterine death of fetuses likewise was reported to be five-to-tenfold greater than normal for mice treated late in their pregnancy (11 to 19 days).

By contrast, there was little intrauterine death of fetuses when the drug or its metabolites were given in earlier stages of pregnancy (8 to 10 days).

Of the two metabolites studied, one known chemically as the 3-beta hydroxymetabolite, was much more active in causing fetal abnormalities than the other, called the 3-alpha hydroxymetabolite.

Chemical Structures Similar

It was further noted in the study that the chemical structures of the two drug metabolites given to the mice were the same as those found in the urine and blood of women following oral administration of norethynodrel.

Significant, too, is that the amounts of norethynodrel given orally to mice in the study were relatively small, but represented on a dose-weight basis the approximate amount of the drug a woman would take.

Associated in the study with Drs. Wall and Palmer were Joy T. Gidley and H. Dix Christensen, Jr.

Their investigations are being supported by NIGMS in a national program of research to learn the nature and causes of adverse drug reactions, occult drug toxicity, drug interactions and other risks associated with the use of prescription and over-the-counter drugs.