Aging Conference Offers Proposals For Wide Action

By Mildred Sargent

Delegates from all 50 of the States and three U. S. Territories concluded their discussions at the recent 4-day White House Conference on Aging with policy statements and recommendations to help the Nation's senior citizens realize their highest potential.

Watt, Grant Praised

Dr. James Watt, Director of the National Heart Institute, who has served during the past year as Special Assistant to the Secretary for Aging, and Robert H. Grant, Executive Officer of NHI, who was Director of the Special Staff on Aging, received high praise for their work from the outgoing DHEW Secretary, Arthur S. Flemming.

Within the next 90 days, an official report of the Conference will be submitted to President Kennedy and HEW Secretary Ribicoff.

It is expected that the Conference recommendations will be widely used as a guide to actions by States, communities, the Federal Government, private organizations, and older people themselves.

Eisenhower Speaks

At the opening session in Constitution Hall, President Eisenhower delivered his last address to a Washington conference. He urged the delegates to consider "every conceivable view" of medical care.

After major discussions of this area, the Conference group concerned recommended: "It is an appropriate and desirable responsibility of the Federal Government to finance health care benefits for the aged through a contributory system of social insurance (OASDI)."

The research sections, among other recommendations, urged... (See CONFERENCE, Page 7)

Dr. Kety to Be Head Of Psychiatry Dept. At Johns Hopkins

Dr. Seymour S. Kety, Chief of the Laboratory of Clinical Science, NIMH, since 1957, has accepted appointment as Head of the Department of Psychiatry at the Johns Hopkins University School of Medicine and its hospital.

The appointment was announced January 15 by Milton S. Eisenhower, President of Johns Hopkins University, and Dr. Russell A. Nelson, Director of Johns Hopkins Hospital.

Dr. Kety will leave NIH for his new post in the spring.

Widely known for his work in the biology of schizophrenia, Dr. Kety recently published a review of current theories in this area. He has also been a leader in the new research field of psychopharmacology.

Upon coming to NIH in 1951, Dr. Kety served as Associate Director in Charge of Research for NIMH and NIND.

In this position he established, organized, and supervised the combined basic science research program of these two Institutes. Concurrently, he pursued his own in... (See DR. KETY, Page 2)

Dr. Terry, Assistant Director of NHI, Appointed PHS Surgeon General; Three Other HEW Posts Filled

In the appointment of Dr. Luther L. Terry, 49, Assistant Director of the National Heart Institute, as Surgeon General of the Public Health Service, President Kennedy chose a veteran PHS career man who has been an NIH staff member for the past 10 years.

Dr. Terry succeeds Dr. Leroy E. Burney who had served in that capacity since August of 1956.

Announcement of Dr. Terry's appointment to the top PHS post was made by the incoming President on January 15, five days prior to his inauguration.

At the same time Mr. Kennedy made known his selections for three other high-level positions within the Department of Health, Education, and Welfare. They were: Former Rep. James M. Quigley, 42, of Camp Hill, Pa., as Assistant Secretary for Federal and State Matters; Dr. Wilbur Cohen, 47, Professor of Public Welfare Administration at the University of Michigan, as Assistant Secretary for Legislative Matters; and Alan W. Wilcox, 59, of Washington, D.C., General Counsel of the American Hospital Association, as General Counsel.

Becomes Acting Director

Dr. Terry was named Assistant Director of the Heart Institute in August 1958, and since December of 1959 had also served as Acting Director during the part-time absence of the Director, Dr. James Watt, designated Special Assistant to the Secretary for Aging, to assist in gerontological matters and in connection with the 1961 White House Conference on Aging.

Dr. Terry first became associated with the Public Health Service in 1942 when he was granted military leave from the University of Texas, where he was Associate Pro... (See APPOINTMENTS, Page 8)

Terry Brings to Job Wide Experience in Research, Teaching

By Bill Sanders

Dr. Luther L. Terry brings extensive teaching, research, and clinical experience into his new post as Surgeon General of the Public Health Service.

This includes seven years as Chief of the General Medicine and Experimental Therapeutics Branch of the National Heart Institute beginning in 1951, and a continuing active interest in research work.

As Chief of GMET, Dr. Terry directed research teams engaged in such diversified projects as:

- Studies to clarify the processes of amine metabolism, the alteration with disease, and their therapeutic modification by drugs;
- Development of simpler, safer, more reliable means for the diagnostic evaluation of inborn heart disease.
- The development of the top system of care for those with inborn errors of metabolism.
- Development of antihypertensive agents.

Dr. Terry will continue to serve as a member of the editorial boards of the New England Journal of Medicine and the American Journal of Physiology.

'Annie,' Postponed by Thursday's Snow, Stages Sunday Matinee Performance

Picture on Page 8

"Annie Get Your Gun" got her powder wet Thursday night in the blizzard, but went off with a bang instead of a Sunday matinee in what might well be a precedent-setting performance.

By curtain time on Thursday, fully half of the cast and orchestra were still stranded somewhere in the city or suburbs.

However, a hardy 80 or so turned up in the audience, and those of the cast who battled it through showed their appreciation by singing some of the show songs for them.

The CC reception desk passed the word to all inquirers that the Thursday performance would be postponed until Sunday afternoon.

By Sunday matinee time, not only those holding Thursday's tickets showed up, but a number of others—mainly children.

A further Hamster precedent was set on the night of January 17, when a special performance of "Annie" was given for CC patients, their relatives and friends.

(See APPOINTMENTS, Page 8)
Dr. John T. Edsall, NIH Guest Lecturer, Discusses Protein Molecule Structure

Dr. John T. Edsall, Professor of Biological Chemistry at Harvard University and Editor of the Journal of Biological Chemistry, was the guest lecturer here on January 25, in the NIH Lecture Series.

A leading scientist in the field of physical chemistry and theory of proteins, Dr. Edsall spoke on "Inquiries Concerning the Fine Structure of Protein Molecules."

The discussion, concerning the status of proteins in the hierarchy of chemical molecules and biologically functional units, covered a limited number of well-defined proteins with reference to molecular framework, conformational patterns and related structural factors and influences.

Dr. Edsall considered the question of whether amino acid residue sequences in peptide chains may be the decisive factor in determining favored three-dimensional configuration of protein molecules.

A graduate of Harvard University, Dr. Edsall received his M.D. degree from Harvard Medical School in 1928. He was awarded the Guggenheim Fellowships in 1940 and 1950, and has been Visiting Fulbright Lecturer at Cambridge, England, and Visiting Professor at the College de France, in Paris.

Dr. Edsall is a member or Fellow of numerous scientific societies and former Chairman of the Board of the Federation of American Societies for Experimental Biology. He has served on the editorial board of the Journal of the American Chemical Society since 1948 and has been a co-editor of Advances in Protein Chemistry since 1944.

The NIH Lectures were established in 1952 to recognize outstanding scientific accomplishments and to contribute to the vital interchange of scientific information.

Patients, Staff, Guests to Participate in CC's Bi-Weekly Reading Night

A bi-weekly Reading Night for CC staff, patients, and visitors was inaugurated last week by the CC Patients' Library and members of the USPHS Officers' Wives Club.

At the first session, on January 25, Dr. Leroy Allredge, a geophysicist with the Coast and Geodetic Survey, spoke on "The Wonderful World of Books."

Reading Nights will be held on alternate Wednesdays in the 14th floor assembly hall of the CC from 7:00 p.m. throughout the winter and spring. The next session is scheduled for February 8.

Organized in response to widespread interest, the discussions will cover books, reading, authors, and libraries. Planned topics include "What Does a Book Offer?" and "What Good Are Poems?" and "Biographies Bring New Companions."

The audience is encouraged to ask questions, exchange views with the speakers, and participate in the discussions.

Future speakers will include members of the NIH staff and the Bethesda community.

The committee from the USPHS Officers' Wives Club assisting the library staff includes Mrs. William Jenkins, chairman; Mrs. G. Halsey Hunt, Mrs. Frank French, and Mrs. Wilton Fisher.

Dr. Kety previously served as the NIH's first Chief of Clinical Physiology and as Assistant Professor of Pharmacology at the University of Pennsylvania Graduate School of Medicine.

Born in Philadelphia, he received his M.D. degree from the University of Pennsylvania in 1940. In 1942 he received a National Research Council Fellowship at Harvard University.

The author of over 100 scientific papers, Dr. Kety is also the recipient of many honors. Among them are the Distinguished Service Award of DHEW, the Theobald Smith Award, and the Max Weinberg Award.

He is editor-in-chief of the Journal of Psychiatric Research and Editor of Experimental Biology, and serves on numerous scientific boards, councils, and committees.

Dr. Kety was one of the first NIH scientists chosen unanimously by the Scientific Directors of the Institutes to deliver an NIH lecture. In 1950.

In his new post, Dr. Kety will succeed Dr. John C. Whitehorn, who retired in June 1960.
Science Section

NHI Studies Clarify Role of ADH In Renal Concentrating Mechanism

Studies by Dr. John R. Jaenike, of the National Heart Institute Laboratory of Kidney and Electrolyte Metabolism, have provided evidence to confirm the previously suspected role of antidiuretic hormone in the renal concentration mechanism.

His data indicate that the hormone contributes to the production of a concentrated urine by increasing the permeability of the kidney collecting ducts to water and urea. His findings have been accepted for publication in the Journal of Clinical Investigation.

One of the most striking and important features of the mammalian kidney is its ability to put out urine considerably more concentrated than blood plasma when fluid intake is low, and considerably more dilute than plasma when fluid intake is high. By this means the kidney is able to maintain fluid balance so that the organism neither becomes waterlogged nor dehydrated even though fluid intake might fluctuate widely. The hormone which regulates this mechanism is antidiuretic hormone (ADH).

Pituitary Stimulated

When fluid loss exceeds fluid intake, the blood tends to become more concentrated, which increases its osmotic pressure. Special receptors in the brain respond to these increases in osmotic pressure by stimulating the pituitary to release ADH. This hormone promotes water conservation by causing water reabsorption in two adjacent segments of the kidney tube that in the absence of ADH are impermeable to water, the distal convoluted tubule and the collecting duct, which together make up the latter half of the renal tubule.

Blood entering the kidney must flow through filtration structures (glomeruli) where protein-free plasma is removed for processing in the kidney tubules. As the filtrate flows through the first half of the tubule, substances needed by the body are reabsorbed and the volume of the filtrate is reduced some 80 percent by the removal of water. Water removal is the passive result of the active removal of salt, which exerts an osmotic force that pulls the water out behind it.

The reduction in filtrate volume is not accompanied by an increase in filtrate concentration. In fact, because partially more solute than water is removed, the filtrate is actually more dilute than plasma when it enters the distal convoluted tubule.

In the distal convoluted tubule and the adjacent collecting duct ADH, by its presence or absence, determines whether the urine will be concentrated or dilute, and its concentration small or large. If ADH is absent, neither segment is permeable to water. But salt removal continues in the distal convoluted tubule, and since water is not removed in proportion, the filtrate concentration drops considerably below that of plasma before the filtrate enters the collecting duct. Urine concentration in the collecting duct is dependent on water removal; and since this segment is also impermeable to water without ADH, the dilute filtrate that entered the collecting duct leaves it as a dilute urine.

If ADH is present, water reabsorption continues in the distal convoluted tubule; and the filtrate concentration may rise as high as that of plasma (but never higher) before it enters the collecting duct, where urine concentration occurs.

Dr. Jaenike found that ADH also increases the reabsorption of water and urea in the collecting duct. His studies revealed that urea concentrations were consistently higher in the medulla and papilla of dog kidneys removed after giving the animals ADH than in those removed after the animals’ secretion of ADH had been blocked.

Water Permeability Increased

Because urea reabsorption is dependent upon water reabsorption, the increased reabsorption of urea in these kidney regions where the collecting ducts are located indicated that ADH had increased the water permeability of the collecting ducts. Urea reabsorption is achieved in the collecting duct by the removal of water; thus this action of ADH is an important factor in the urine concentration mechanism.

The reabsorption of water and urea that occurs in the collecting duct is not due primarily to continued reabsorption of salt, but to the high salt concentrations already existing outside the collect-

(CADH ROLE, Page 6)

Effects of Tranquilizer On Nerve Cells Studied

Dr. H. Weil-Malherbe, National Institute of Mental Health Visiting Scientist, who has been studying the distribution of epinephrine (adrenaline) and norepinephrine in the brain nerve cell, has found that they can be separated into two broad fractions: the first present in the cell sap, the second concentrated in granular matter. According to current concepts, the fraction of the cell sap is biologically active; the other is thought to serve as a reserve supply. The effects of the tranquilizer reserpine and a number of other drugs have been examined alone, and in combination with each other.

Findings reported in the Journal of Neurochemistry indicate that reserpine acts by effecting a redistribution of amines in the two fractions, and suggest a reappraisal of previous theories on the mode of action of this drug. The results further strongly substantiate other recent research by NIH investigators indicating the role of catechol-O-methyl-transferase in metabolizing these biogenic amines formed within the brain.

Safe Method Developed For Plasma Transferral

A safe procedure for separating platelets from red blood cells and plasma, using plastic equipment, has been developed by Dr. Allan Kliman, Division of Biologies Standards, and Drs. Emil J. Freidlich, Lawrence Gaydon, and Leslie Schroeder, of National Cancer Institute. The work was reported by Dr. Kliman at the January, 1961, Eastern Section meeting of the American Federation for Clinical Research.

The procedure consists of taking whole blood from a donor, immediately separating out the plasma and platelets for transferral to the patient and returning the red cells to the donor.

The return of the red cells makes it possible to withdraw amounts of plasma as large as 1000 ml. per week for periods up to six weeks from the same donor without any harmful depletion of proteins or blood cells. Since only one donor is involved, the risk of hepatitis is lessened.

Although repeated doses of platelets from the same donor were administered to each of six leukemic children, the platelet response remained satisfactory and the treatment was repeatedly effective in controlling hemorrhage.

The data obtained indicated that the donor platelets did not provoke specific immunity in the pa-

(CADH ROLE, Page 6)
Vitamin C Protein Metabolism Role Demonstrated by NIAMD Scientists

Exploration of some of the many biochemical ways in which vitamins can act has disclosed an unusual role for vitamin C (ascorbic acid) under certain experimental conditions. Drs. Bert N. LaDu and Vincent Zannoni of the National Institute of Arthritis and Metabolic Diseases have shown that vitamin C acts to "protect" one of the enzymes needed in the metabolic degradation of tyrosine in the body.

While this protective role is necessary for normal metabolism, it is a much less specific function for vitamin C than had been supposed, and provides an interesting example of the multiple functions the vitamin may have.

Role Important

Vitamin C has been known to have an important role in maintaining normal tyrosine metabolism, a process which takes place in a series of reactions. Before they will take place, however, several enzymes must be present to promote the reactions and control their speed, and at one time it was thought that vitamin C formed part of one of the enzymes, p-hydroxyphenylpyruvic acid oxidase or PPAO.

This enzyme facilitates the second step in tyrosine metabolism, the conversion of p-hydroxyphenylpyruvic acid to homogentisic acid. Such an action by vitamin C would be similar to that of some of the B vitamins which participate in other metabolic processes as indispensable components of the enzymes involved.

The NIAMD scientists have now found that instead of becoming an intrinsic part of PPAO, vitamin C protects this enzyme from being inhibited in the presence of excessive amounts of p-hydroxyphenylpyruvic acid.

Effect Demonstrated

They were able to demonstrate this protective effect in guinea pigs that were deficient in vitamin C and had been fed extra amounts of tyrosine in their diet. The extra tyrosine caused large amounts of p-hydroxyphenylpyruvic acid to accumulate in the liver and within two hours 80 percent of the PPAO present in the liver had been inactivated.

On the other hand, animals that were given vitamin C showed no reduction in PPAO activity after tyrosine loading, indicating that the vitamin prevented inactivation. The exact mechanism of this inactivation and protection is still being investigated.

Other Compounds Used

Other compounds chemically unrelated to vitamin C, including the dye 2, 6-dichlorophenolindophenol, were also able to prevent inhibition of the enzyme in ascorbic acid-deficient guinea pigs given large amounts of tyrosine.

However, these compounds did not prevent guinea pigs from developing weight loss, hemorrhages and other signs of scurvy (vitamin C deficiency).

Conclusions Cited

"Perhaps future experiments will reveal instances in which ascorbic acid acts as a 'conventional' vitamin in some of the other biochemical processes which are deranged in scurvy. The elucidation of its role in tyrosine metabolism illustrates one of the variety of ways in which this essential carbohydrate participates in biochemical and physiological reactions," the NIAMD investigators concluded.

The work was reported at the New York Academy of Sciences "Conference on Vitamin C."

Effect of Feeding Tyrosine on Enzymes in Normal and Scorbatic Guinea Pigs

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<th>Normal Treated</th>
<th>Scorbatic Untreated</th>
<th>Scorbatic Treated</th>
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<th>Liver Tyrosine Transaminase</th>
<th>Liver HGA Oxidase</th>
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<td>D-Glucoascorbic acid</td>
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<td>0.5</td>
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</table>

Summary of the types of compounds tested for ability to replace ascorbic acid in the oxidation of l-tyrosine by cell-free liver preparations. +, effective; —, ineffective; blank, not tested. (Ref. 69, 75, 39, 80, 42).
Intratracheal Inoculation With Polyoma Virus Studied in Hamsters

The increasing prevalence of human carcinoma of the lung has highlighted the urgent need for studying the disease in the laboratory. A most important step is the production of lung tumors in the laboratory animals, and a number of reports have appeared in the scientific literature on the methods—particularly by the use of hydrocarbons—that will induce such tumors in mice, rats, and rabbits.

Syrian Hamsters Used

The Syrian hamster appears to be a suitable animal for the study of lung carcinogenesis, because spontaneous lung tumors have not been observed in this species and pulmonary infections are rare.

About two years ago, Drs. Ber­nice Eddy (Division of Biologies Standards) and Sarah E. Stewart (National Cancer Institute) report­ed that subcutaneous inoculation of polyoma virus induced undifferen­tiated lung tumors in newborn hamsters. This observation provided an opportunity to investigate the possible viral etiology of lung cancer, and was the basis for the present study by Dr. Alan Rabson and his associates of the effects of intratracheal inoculation of the virus in hamsters.

Tumors Developed

Of 22 weanling (26-38 days old) animals inoculated, 16 died by the 48th day after inoculation, with histologic features of bronchiolar carcinom­ma, alveolar-cell carcinoma, and squamous-cell carcinoma were found in six hamsters that died 164 to 291 days after inoculation. Of the 10 animals in which no tu­mors were seen, five that died 27 to 195 days after inoculation were found to have proliferation lesions of bronchiolar and alveolar-lining cells. One of the tumors has been transplanted, and has retained its squamous differentiation through four generations.

An attempt was made to demon­strate the presence of free virus by adding a suspension of one of the lung tumors to tissue cultures of milk-adapted P388 D1 cells. However, no evidence of a cyto­pathic effect was observed.

Further work is in progress to investigate the role of the polyoma virus in the production of these tumors.

The report, which appears in a recent issue of the Journal of the National Cancer Institute, was written by Dr. Rabson, of the NCI's Pathologic Anatomy Branch, and William J. Branigan, and Frances Y. Legallais, of the Lab­oratory of Pathology.

Acetylcholine Production Discussed

Dr. David Nachmansohn, Pro­fessor of Biochemistry at the Co­lumbia University Medical School, delivered a National Heart Insti­tute-sponsored lecture entitled “The Chemical Basis of Nerve Ac­tivity” on January 12 in the 14th floor auditorium of the Clinical Center.

Recent investigations conducted by Dr. Nachmansohn and his col­leagues into the fundamental mechanisms of nerve conduction have confirmed his theories, first proposed in 1940, concerning the vital role of acetylcholine in all bioelectrical functions.

The studies show that acetyl­choline production progresses along the entire nerve fiber where source of radiation—in the form to change the nerve’s permeabil­ity to ion movements. This change progressively alters the nerve’s electrical potential, allowing prop­agation of the nerve impulse. The duration of the impulse is con­trolled by cholinesterase, which de­stroys the acetylcholine a fraction of a second after it acts.

Prior to these studies, most sci­entists believed that acetylcholine production occurred only at nerve endings and that it was responsi­ble for conducting impulse across the endings to other nerves and muscles. Their belief was based on studies of the action of curare, an impulse-blocking poison which apparently acted only at nerve endings.

Myelin Sheath Studied

Dr. Nachmansohn, however, the­orized that curare would act at any point along the nerve; the next were it not for the fatty insulating layers (myelin sheaths) surrounding nerves. This was demonstrated in studies involving the physical or enzymatic destruction of myelin sheaths.

The Columbia University work­ers also isolated and identified the receptor protein with which acetyl­choline combines to change mem­brane permeability, and found that local anesthetics combine specific­ally with the protein in a wa­ter solution. They believe that this is the first conclusive demonstra­tion that the local anesthetic reac­tion by which local anesthetics pro­duce their effects.

Sodium Phytate Found To Be Caries Inhibitor

Addition of soluble mineral phosphates to the diets of labora­tory animals has consistently demon­strated the cariostatic effect of this group of compounds. Although the exact mode of action is ob­scure, National Institute of Dental Research scientists have felt that an inhibitory reaction may be oc­curring locally on the surfaces of teeth in the presence of freely available phosphate ions.

Recent studies with sodium phy­tate, an organic phosphate, have now demonstrated a cariostatic ef­fect of possible systemic origin. Dr. F. J. McClure, Chief, Lab­oratory of Biochemistry, NIDR, has found that an otherwise cario­genic diet containing 1.4% sodium phytate, when fed to rats, reduced the caries incidence in these ani­mals by an average of 77%

This antiscarious effect was sig­nificant when compared with a 47% reduction obtained with so­dium phosphate and a 72% reduc­tion with diammomium phosphate, both administered at comparable levels in similar diets. The sub­stantial cariostatic reduction was some­what unexpected since phytate is hydrolized primarily in the lower intestine by the enzyme phytase. In addition, data from serum samples from rats receiv­ing sodium phytate confirmed the systemic availability of phos­phorus in these animals.

The caries inhibiting effect of NCI Leukemia Studies Show Changes in Level Of Serum Protein

Certain characteristic changes in serum protein levels that appear in patients with two types of acute leukemia have been reported by scientists of the General Medicine Branch, National Cancer Institute.

This investigation of serum pro­tein patterns in leukemia is part of the continuing NCI study of metabolic changes in malignancy.

The study included 110 patients who were admitted to the Clinical Center of the National Institutes of Health over a 5-year period. The levels of five protein compo­nents in the serum were measured by electrophoretic analysis of 171 samples from 58 patients with acute lymphoblastic leukemia (LL) and 64 samples from 28 patients with acute myeloblastic leukemia (ML).

Characteristically, serum protein patterns observed for these two types of acute leukemia. In ML, the gamma globulin level was elevated; in LL, the alpha-2 globulin level was elevated. In both forms of the disease, serum albumin was significantly lowered and the beta globulin component was essentially normal. Alpha-1 and alpha-2 globulin levels both exhibited a wide range of values.

These abnormal serum protein patterns were characteristic of the uncomplicated disease, i.e., excluding samples obtained during fever, infection, or liver disease. Fever, in the absence of infection, was associated with elevation of this component, and, in addition, with a further de­crease in the serum albumin levels.

The characteristic serum patterns persisted during hematologic remission and following therapy with antimetabolites or adrenal corticosteroids.

The authors of the paper con­clude that the “serum protein al­terations . . . appear to be specifi­cally due to the presence of the leukemic processes. . . .”

The study is reported in a recent issue of Blood, by Drs. John L. Fahey and Dane R. Boggs.

The organic phytate remains specula­tive, particularly when viewed in light of the proposed local action of the several mineral phosphates. However, data from these studies lend further support to observa­tions of other investigators that the organic phosphates (primarily phytate) present in cereals, legumes, and coohydrates foods, are responsible for the low cariogenic activity of these foods.
Further Studies Made On Leukemia L1210

Further results of a continuing study of the interrelationships of host-tumor-drug factors in the L1210 mouse leukemia have been reported by investigators of the National Cancer Institute's Laboratory of Chemical Pharmacology.

Their earlier studies had indicated that mice surviving systemic leukemia L1210 following treatment with drugs showed immunity to reinoculation of drug-sensitive and drug-resistant sublines of the leukemia. This finding suggested the possibility of utilizing the immune response to enhance the effectiveness of chemotherapy of mice bearing variant forms of the disease resistant to specific drugs or classes of drugs.

Mice Inoculated

Mice were inoculated on day 0 with a subline L1210Z, which is sensitive to the antifollic drug, and on day 7 with a subline, M46R, which is resistant to antifolic drugs.

Treatment with 3', 5'-dichloro-aminomethopterin (DCM), started on day 7, when the sensitive disease had become systemic, produced a median survival time of approximately 40 days from the day of inoculation of the resistant subline.

On the other hand, the survival time of DCM-treated mice bearing only the resistant subline did not exceed 20 days, even if treatment was started on the day of implantation. Furthermore, if the mice were inoculated with both lines and treatment was started on the same day, they survived no longer than the treated mice bearing only the resistant subline.

Survival Prolonged

The findings show that it is possible to prolong the survival of mice bearing an antifollic-resistant variant of leukemia L1210 and receiving treatment with DCM by prior inoculation with a drug-sensitive subline.

It appears that the presence of systemic sensitive leukemia L1210 elicited in the hosts an immune response, which contributed to the therapeutic effect of DCM against the resistant variant. Further study of the relationship of drugs to immunological inhibition and enhancement is needed as a basis for improved cancer therapy.

Dr. Abraham Goldin, Stewart M. Kamen, and Dr. Michael A. Chirigos are co-authors of the report, which appears in a recent issue of Cancer Research.

NHI Devises More Precise Clinical Test For Hyperparathyroidism Diagnosis

Scientists of the National Heart Institute Clinical Endocrinology Section have devised a new clinical test for hyperparathyroidism that affords a more precise diagnosis of this disorder than do tests used previously.

The new test involves feeding a diet low in calcium and phosphorus over a period of 13 days and giving aluminum hydroxide orally during the last 10 days of the regimen. The diagnosis of hyperparathyroidism is established if the subject's urinary calcium exceeds 250 mg. per day during the test period.

The diagnostic criteria normally used to establish hyperparathyroidism are excessive serum calcium, excessive urinary calcium, and normally low serum phosphorus.

However, all of these criteria are not met in many cases of hyperparathyroidism; and some of the criteria, notably hypercalcemia, may be due to other causes. Thus, this disorder often presents a ticklish problem of differential diagnosis.

New Test Evaluated

The new test appears to overcome many of these problems. It was evaluated in 10 normal controls and in 18 patients with established hyperparathyroidism, but only four of which met all of the diagnostic criteria above. When put on the test regimen, however, all 18 patients exhibited abnormally high urinary outputs of calcium—defined as a rise in urinary calcium above 250 mg. per day regardless of values of serum calcium or of serum and phosphorus. In contrast, the urinary calcium of the normal controls never exceeded 230 mg. per day.

RADIUM HOLDER

(Continued from Page 5)

reached the tumor-free area of the nasopharynx and the nearest portion of the midbrain.

The investigators conclude that the method is advantageous because the mold is easy to make and the accurate outline of the tumor guides the positioning of the radiation source.

The report appears in a recent issue of the American Journal of Roentgenology.

ADH ROLE

(Continued from Page 2)

The specificity of the new test was further verified by the observation that urinary calcium reverted to normal in five patients tested after surgical correction of their hyperparathyroidism, whereas it became abnormal in controls tested after they had been given parathyroid hormone.

Test More Accurate

The aluminum hydroxide administered as part of the test effectively converts a low phosphorus intake into a very low one by interfering with the absorption of phosphorus from the intestine. It also appears to enhance calcium absorption in hyperparathyroid subjects to a much greater extent than in normal subjects.

The action of the aluminum hydroxide, though not completely understood, appears to be chiefly responsible for the specificity of the test.

The new test, when used in combination with the calcium infusion test previously found to be a reliable means of diagnosis, allows diagnosis of hyperparathyroidism with greater accuracy and precision than heretofore possible, and is especially valuable in the difficult-to-diagnose case.

The new test was devised by Drs. Pacita Promone, Norman H. Bell, and Frederic C. Battier, of the NHI Laboratory of General Medicine and Experimental Therapeutics. Their findings were reported at the meeting of the American Federation for Clinical Research in New Orleans.

Garter Snake Indicated As Possible WEE Host During Winter Months

The method by which the virus of Western Equine Encephalitis maintains itself during the winter months has long puzzled epidemiologists engaged in the study of this disease. Although it is established that birds play a part in its dissemination during the summer, their role as a winter reservoir host or as a means of reintroducing the virus into northern areas each year needs further clarification.

Snakes Tested

The observation by Drs. Leo A. Thomas and Carl M. Eklund of the National Institute of Allergy and Infectious Diseases' Rocky Mountain Laboratory that Culex tarsalis, along with hibernating garter snakes, led to speculation on the possibility of a snake reservoir. Preliminary tests demonstrated that C. tarsalis, the mosquito reservoir of WEE virus, picks up the virus in a tick reservoir, leading to the possibility of a snake reservoir.

The present study further clarifies the problem and indicates garter snakes as one possible overwintering mechanism for the WEE virus. Findings were reported in the Proceedings of the Society for Experimental Biology and Medicine.

Viruses Detected

In the experiment, the investigators inoculated 50 wild garter snakes intraperitoneally with virus-infected mouse brain suspension in September and November of 1959. The snakes were then specially constructed to simulate garter snakes and were fed on the post-hibernating C. tarsalis mosquitoes. Virus-infected mouse brain suspension was used again in the field.

Since about 80 percent of the water entering the tubules has already been reabsorbed before ADH enters the picture, it might appear that the contribution of this hormone to water conservation is slight. However, since the kidney processes a volume of fluid estimated to be 50 times the total body water every 24 hours, relatively small losses quickly add up to staggering totals. Such fluid losses, due to inadequate ADH, are responsible for the instable thirst and enormous urinary output that attend diabetes insipidus.

ADH ROLE

(Continued from Page 2)

Although the data demonstrate a possible overwintering mechanism of WEE virus, Dr. Thomas feels that more conclusive evidence will be available if virus is isolated from garter snakes actually collected in the field.
early establishment of a National Institute of Gerontology within the framework of the National Institutes of Health.

Two Congressmen reported that they are sponsoring plans for organizations to deal with the special problems of the aging.


Rep. Fogarty introduced the original bill (H. R. 9822) which as Public Law 85-908 authorized the President to call the Conference, designating the Secretary of HEW to plan and conduct it with the assistance of Federal departments and agencies.

3,200 Attend

The delegates and visitors from 28 foreign countries, totaling 3,200, divided into 36 sections, each with its chairman, technical director, and recorder.

These met in work groups of sections and addressed themselves to their subjects: Population Trends, Income Maintenance, Impact of Inflation on Retired Citizens, Employment Security and Retirement, Health and Medical Care, Rehabilitation, Social Services, Housing, Education, Role and Training of Professional Personnel, Family Life, Free Time Activities, Religion and Aging, Research in Gerontology (Biological, Medical, and Psychological and Social Science), Local Community Organization, State Organizations, National Voluntary Services and Service Organizations, and Federal Organizations and Programs.

Folsom Endorses Plan

Former Secretary of HEW Marion Folsom endorsed the Social Security plan for medical care, with the proviso that an advisory council representing employers, labor, the insurance industry, hospital administrators, and medical profession, and the general public be appointed to study all aspects of the problem and make recommendations to Congress.

The final policy statements of the Conference groups included a recommendation that "... a Federal coordinating agency in the field of aging be given: a) a statutory basis and more independent leadership, b) adequate funds for coordination and other assigned functions through a 'line item' appropriation, c) responsibility for formulation of legislative proposals for submission to Congress, and d) responsibility for periodic reviews of reports on the various

OFFICIALS MEET AT CONFERENCE

Robert H. Grant, Executive Officer, NIH, and Director of the Special Staff on Aging (second from left); Dr. John E. Reino, Chairman, Virginia Commission on Aging (left); U. S. Sen. Harry Flood Byrd (second from right), and H. Burton Aycock, HEW Regional Representative for Aging, Region 3, Charlottesville, Va.

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Dr. James Watt, NHI Director and Special Assistant to the Secretary for Aging, confers with Margaret Schweinhaut, Chairman, Governor’s Commission on Aging, Maryland (left), and her twin sister, Marie McGuire, who attended the Conference as a delegate from Texas.—Photos by Jerry Hocht.

A Guard Office Reminder: Check It For Lost Articles

The Guard Office, Blgd. 10, Rm. 1-A-106, usually has a collection of jewelry, keys, gloves, coats, etc. which have been found somewhere on the reservation. Remember to check there when you or your visitors lose things.

Dr. Haas Retires After 30 Years in Health Service

Dr. Victor H. Haas, who was the first Director of the National Institute of Allergy and Infectious Diseases, retired January 1 from the Public Health Service after 30 years of service. Dr. Haas had been associated with NIH since the early 1930s, his first assignment here dating back to 1934.

In the course of his career he worked on encephalitis investigations in St. Louis, on plague in San Francisco, and in the late 1930s on viruses in Bethesda.

In 1941 Dr. Haas was sent with a group of Public Health Service officers to head the Medical Commission to the Yunnan-Burma Railway in China.

Wins Legion of Merit

In 1942-1943 he was attached to a U. S. Army unit of the China-Burma-India Theater after work on the railroad was made impossible by early reverses during the war. For his service during this period he was awarded the U. S. Army Legion of Merit.

From 1943-1948 Dr. Haas served as Officer-in-Charge of malaria investigation, and in 1948 he became the first Director of NIAID, then named the National Microbiological Institute.

In April of 1957 he left the directorship of the Institute for full-time research in the Laboratory of Infectious Diseases.

In 1959 a reorganization of the laboratory brought two NIAID laboratories into the formation of several new laboratories, one being the Laboratory of Biology of Viruses, to which Dr. Haas remained attached until his retirement.

For the past 13 years Dr. and Mrs. Haas lived in Bethesda. They have now left the area and expect to settle near San Francisco.

Meenehan to Address NIH Camera Club

John Meenehan, well-known Washington lecturer on color photography, will be guest speaker at the next meeting of the NIH Camera Club, to be held in Wilson Hall, February 6, at 8 p.m.

As color photography chairman for the Greater Washington Council of Camera Clubs Inter-club conventions, he will discuss the techniques of preparing potentially prize-winning color slides.
Registration Dates Set For Graduate Courses

Registration for the spring term of the USDA Graduate School will be held here February 6-11 from 11:30 a.m. to 4:30 p.m. daily, in Room 2-B-50, Clinical Center.

Catalogues are available from all administrative and personnel offices, the library, and the CC reception desk.

The following changes in the courses given at NIH have been made since the catalogue was issued:

On Monday, Special Pathology and Chemical Quantum Mechanics are omitted. A new course in Ordinary Differential Equations will be taught by Dr. Clifford S. Patlak.

On Tuesday, the course in Microbial Biochemistry has been dropped, and will be given instead on Wednesday night by Dr. William B. Jakoby.

On Wednesday, the instructor for Introduction to Determinants and Matrices has been changed to Dr. Clifford S. Patlak. A new course in Introductory Virology will be taught by Dr. Wallace P. Rowe.

The Thursday schedule has not been changed.

For further information call Carol Long, Ext. 2427, Bldg. 10, Rm. 2-B-50.

DR. TERRY
(Continued from Page 1)

defects or of heart damage due to disease;
Clinical evaluation of new drugs for the treatment of hypertension and congestive heart failure; and
Studies on endocrine factors such as adrenal, thyroid, pituitary, and other hormones in cardiovascular disease.

Of special interest to Dr. Terry were the studies on amines, many of which appear to be intimately involved in the mechanisms by which the body regulates its blood pressure.

Evidence Is Clear

It has never been shown that amines per se are villains in essential hypertension; however, it has become abundantly clear that certain drugs which alter amine metabolism also lower blood pressure in hypertensive patients.

The two amines that have been studied most intensively are noradrenaline and serotonin. These amines are most prominently in the action of many drugs used against hypertension—noradrenaline in their hypertensive action, serotonin in their sedative and tranquilizing effects—but they also play important roles in the syndromes of two types of secreting tumors: malignant carcinoid and phaeochromocytoma. Dr. Terry participated directly in some of the most important NIH studies on these two amines.

Studies on the metabolism of serotonin in connection with this work led to the development of a simple urinary test for the diagnosis of malignant carcinoid.

Secretes Norepinephrine

Phaeochromocytoma is a tumor that secretes large quantities of noradrenaline, which is responsible for the elevated blood pressure accompanying this disease. Studies on this tumor by the same research team, with Dr. L. C. Leeper, helped to clarify the metabolic pathways by which noradrenaline is produced and broken down by the body.

Dr. Terry also collaborated with Drs. Sjoersma, Louis Gillespie, and other NIH scientists in clinical studies on the monoamine oxidase inhibitors—a family of drugs showing great promise in the treatment of hypertension.

These drugs inhibit monoamine oxidase, an enzyme which inactivates a number of amines including noradrenaline and serotonin, and lower blood pressure by a mechanism still incompletely understood.

Unfortunately, the early MAO inhibitors tested proved too toxic for therapeutic use; however, so great was the promise of this approach that the National Heart Institute followed closely the clinical studies of the Institute, particularly those of his old Branch and the patients who had been under his care during the course of his research studies.


dr. Sjoersma Honored For Metabolic Studies

Dr. Albert Sjoersma, Head of the Experimental Therapeutics Branch, NHI, was one of 22 scientists presented gold medallion medical achievement awards by the Golden Slipper Club at its "Salute to Medicine" dinner in Philadelphia on January 5.

The award winners, all distinguished medical scientists, included Drs. Stanhope B a y n e-Jones, Carl V. Moore, Michael E. DeBaloy, John H. Gibbon, Jr., Howard A. Rusk, Selman A. Waksman, and Paul D. White.

Dr. Sjoersma's award was in recognition of his clinical and experimental studies of the metabolism of vasomotor amines. His work in this field has revealed much about the role of monoamine oxidase, the enzyme which inactivates amines in their hypotensive action, and Drs. Albert Sjoerdsma and Sidney Udenfriend were able to show that pheochromocytoma, a tumor that secretes large quantities of serotonin in connection with this disease, has enzyme activity in abundance.

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APPOINTMENTS
(Continued from Page 1)

Professor of Medicine and of Preventive Medicine and Public Health. He was at that time assigned to the Branch, NIH, was one of 22 scientists presented gold medallion medical achievement awards by the Golden Slipper Club at its "Salute to Medicine" dinner in Philadelphia on January 5.

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Terry attended high school there and was valedictorian of the Class of '27.

He received his B.S. degree from Birmingham-Southern College in 1931, and attended the School of Medicine of Tulane University, where he received his M.D. degree in 1935, ranking fourteenth in a class of 120.

Following World War II, Dr. Terry was a member of the Medical Division of Strategic Bombing Survey to Japan. In 1949 he served as a staff member of the Senate sub-committee investigating Medical Atrocities.

Directs Training Program

From 1956 to 1955 he was a member of the Cardiovascular Study Section, NIH, and has been a member of the Medical Board of the Clinical Center since 1953, serving as its chairman from 1953 to 1955.

He was Chairman of the Cardiovascular Research Training Committee of the Heart Institute in 1957, and from 1956 to 1958 was a member of the PHS Committee on Civilian Health Requirements.

Since 1953 he has served as Director of the Bethesda Training Program of the Heart Institute, and since 1957 as a member of the Advisory Committee on Nutrition of the Indian Health Service.

Dr. Terry is married to the former Beryl Janet Reynolds. They have three children: Janet, 17; Luther, Jr., 15; and Michael, 14. Their home is at 160 South Van Buren St., Rockville, Md.