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## Dr. Wyngaarden To Speak At Minority Biomedical Research Symposium

NIH Director Dr. James B. Wyngaarden will deliver the keynote speech and Assistant Secretary for Health Dr. Edward N. Brandt, Jr., will be the banquet speaker at the 11th Annual Minority Biomedical Research Support Symposium scheduled for Apr. 7-9 at the Shoreham Hotel in Washington, D.C.

Approximately 1,500 faculty and students are expected to attend this year's symposium, making it the largest gathering of minority biomedical researchers in the United States.

Other highlights of the meeting include workshops on monoclonal antibodies and recombinant DNA technology, a seminar on

(See *MINORITY SYMPOSIUM*, Page 4)

## Secretary Heckler Addresses Employees

The answer to the problem that faces us is hard work, dedication, good and creative ideas even under serious budgetary constraints, Secretary Margaret M. Heckler told HHS employees Mar. 14.

The remarks were broadcast simultaneously via a telephone hookup to the 10 regional offices and HHS employees in the Parklawn Bldg., SSA Woodlawn complex, St. Elizabeths Hospital, CDC Headquarters in Atlanta, and the NIH campus.

In her first talk with employees, Mrs. Heckler expressed her feelings about her recent appointment. She stated that most of her political career had been spent working on the very problems that the Department deals with on a daily basis.

The Secretary encouraged employees to approach her with their problems and ideas.

"And I can promise you that when you persuade me of the validity of those ideas, I will fight hard for them. They don't call me a 'heckler' for nothing," she stated emphatically.

In closing, she said, "I look forward to meeting you individually and to working with you for the next 6 years."

After the Secretary's remarks, the new Under Secretary, John A. Svahn, was introduced.

Approximately 1,000 employees were in attendance at the Hubert H. Humphrey Bldg. and an estimated 30,000 listened via the broadcast. □

## NIH Mounts Comprehensive Search For Possible Causes of AIDS

By Joyce F. McCarthy

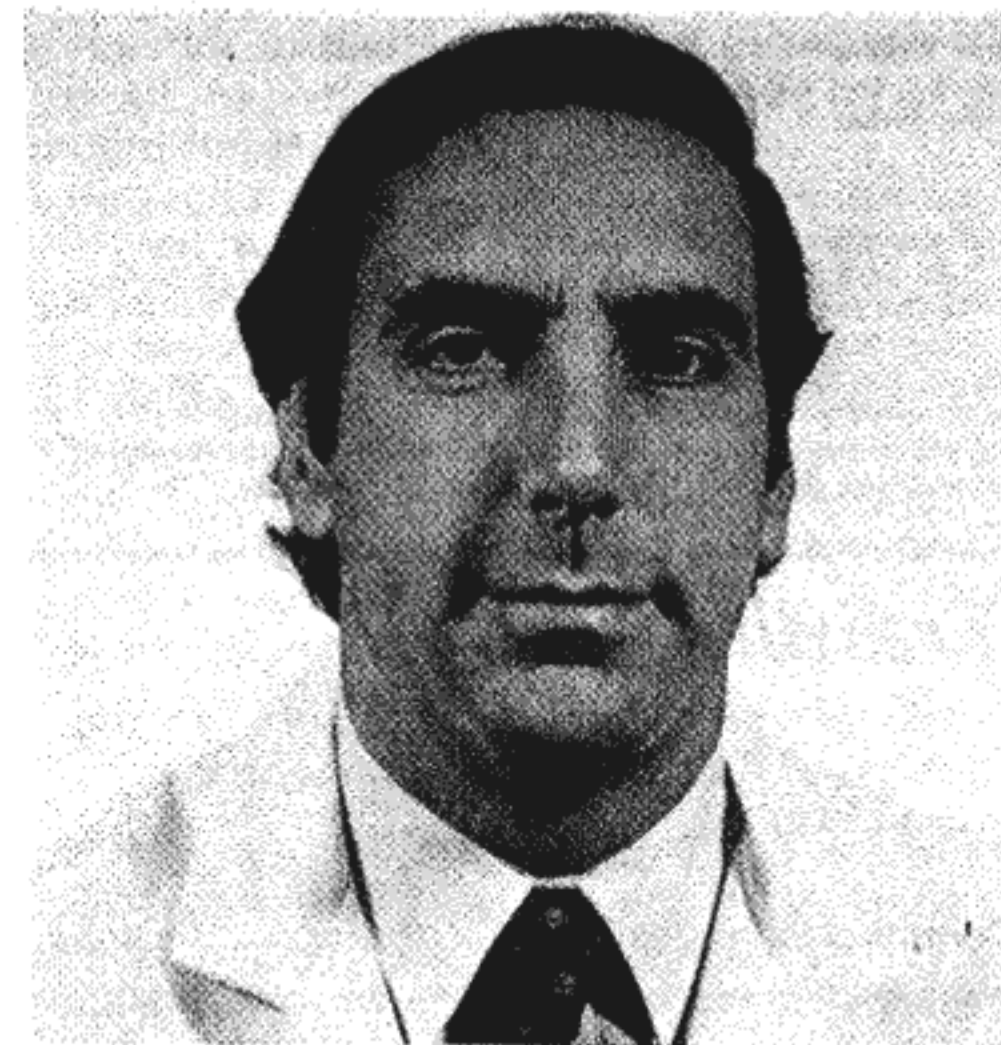
Acquired immune deficiency syndrome (AIDS) was first reported to the Public Health Service in the spring of 1981. By July of 1981, NIH had admitted the first of a number of AIDS patients to its Clinical Center (CC). In conducting a comprehensive clinical study of the disease, NIH has admitted approximately 40 patients to the CC, with not more than 3-4 patients here at any given time.

In the study, begun last spring, many BID scientists are engaged in cooperative research to examine and follow up a small group of AIDS patients. Their goal: to find the cause of AIDS, describe the disease process, and define appropriate therapies.

Scientists from eight NIH Institutes, the CC, and the Food and Drug Administration are studying the neurological, microbiological, pathological, epidemiological, and immunological aspects of this disease.

Those involved are from the National Cancer Institute; the Bureau of Biologics, FDA; the National Institute of Dental Research; the National Institute of Neurological and Communicative Disorders and Stroke; the National Institute of Allergy and Infectious Diseases; the National Eye Institute; the National Heart, Lung, and Blood Institute; and the CC microbiology department.

Under principal investigator Dr. Henry Masur, assistant chief, CC critical care med-



Dr. Masur specializes in infectious disease research and is particularly interested in pneumocystosis and toxoplasmosis.

icine, AIDS-affected patients have been referred primarily from the Washington, D.C. area, and from Philadelphia, Florida, Texas, and Alabama.

"Overall, there are at least 25 investigators and a dozen laboratories across the NIH campus involved in the study," Dr. Masur said.

(See *AIDS*, Page 8)

## Dental Mercury Use May Pose Health Risks

The use of mercury in dentistry may represent a serious health risk for dentists who should take appropriate steps to reduce the danger, according to a study recently completed at the DRR-funded Dental Clinical Research Center of the University of Pennsylvania School of Dental Medicine.

"The results of the study indicate that the current standards of mercury hygiene in dentistry are not consistent with safety in the dental office," the report—issued by Drs. Irwin I. Ship, and Irving M. Shapiro of the school's departments of oral medicine and biochemistry—concluded.

The report noted that more than 2 pounds of metallic mercury are used each year in the average dental office for the preparation of dental amalgam fillings.

Office mercury vapor levels can become elevated due to poor storage, leaking containers, open mixers, broken capsules, accidental spills with inadequate decontamination, as well as inappropriate ventilation and office design.

Other surveys indicate more than 10 percent of dental offices have raised mercury vapor levels, and a similar percentage of dental personnel have high mercury levels in their hair and urine.

A total of 298 male dentists 50 years old and over participated in the University of Pennsylvania School of Dental Medicine study. Mercury levels of the head and wrists were assessed by X-ray fluorescence. Hair and urine specimens were collected, and psychological and IQ tests administered.

(See *DENTAL MERCURY*, Page 9)

Most of the patients in the CC study are homosexual males. There are one to two drug abusers, one hemophiliac, two Haitians, and two women. They include patients with the range of manifestations common to AIDS: those with lymphadenopathy (enlargement of the lymph nodes); those with Kaposi's sarcoma (a rare and aggressive skin cancer previously known primarily to affect men over 60 of Mediterranean origin, and kidney transplant patients); and those with opportunistic infections (infections that the victims normally could combat, but cannot fight off because of a collapsed immune system). One patient with Burkitt's lymphoma (a cancer of the lymph glands) has been included.

Homosexuals not affected by AIDS are participating in the study as controls.

In the 2 years that the Centers for Disease Control (CDC) has been tracking the disease, more than 1,200 cases of AIDS have been reported in 34 states and 15 countries. Over 450 persons have died from the ailment. The fatality rate exceeds 60 percent for cases diagnosed before Jan. 1, 1982.

Investigators theorize that there may be a viral agent that attacks the immune system, or an inherent immunologic defect causing the illness.

In the CC study, "some of the control subjects are as immunosuppressed as the affected patients," Dr. Masur said. "All sorts of unusual infections occur in AIDS patients. The primary problem is that their cellular immunity is markedly suppressed and they are predisposed to unusual infections," he added.

The outbreak has spread by sexual contact and probably by blood transfusions. "The epidemiology of the disease is similar to that of hepatitis B," Dr. Masur said. The investigators working with AIDS patients may be at risk for becoming AIDS-affected themselves.

Because symptoms early in the course of AIDS are so similar to other diseases, it often goes undiagnosed for weeks or months, during which unsuspecting AIDS victims may transmit the presumed infection to others.

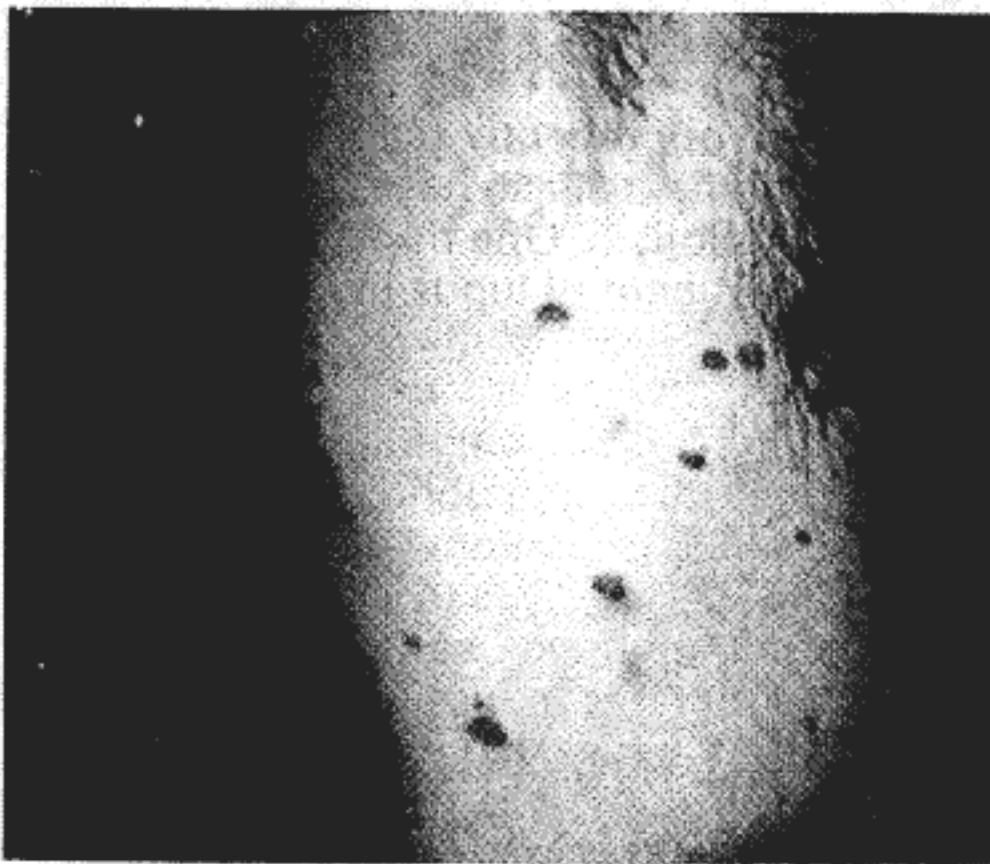
"Patients with pneumonia or meningitis, or a disseminated infection due to agents such as pneumocystis cryptococcus, candida, toxoplasma, or the tumor, Kaposi's sarcoma, would be considered to have AIDS," Dr. Masur said. However, "No one knows how to identify those at risk for transmitting the agent," he added.

Two other symptoms giving physicians evidence of AIDS are blue or brown spots on the skin, which might indicate Kaposi's sarcoma, or oral thrush (yeast infection in the mouth). Extensive herpes of the mucous membranes might also suggest the disease.

In NIH intramural studies, scientists are exploring several aspects of AIDS:

- At the *NCI Division of Cancer Treatment* investigators are using alpha-lymphoblastoid interferon in combination with chemotherapy to treat Kaposi's sarcoma in AIDS patients. Alpha-lymphoblastoid interferon is one of three types (besides beta and gamma) of interferon and is made from white blood cells.

These researchers have also participated



Blue or brown spots on the skin, as seen here on the chest of a CC AIDS patient, are definite indicators of Kaposi's sarcoma.

in the development of an NIAID study using gamma interferon to treat AIDS patients. In addition, division scientists are examining the possible role of retroviruses in AIDS. Retroviruses are RNA viruses which become incorporated into the genetic material of the cell and are often oncogenic (cancer-causing).

- At the *NCI Laboratory of Pathology*, researchers are examining tissue specimens taken from AIDS patients during surgery to examine the immunological characteristics of certain AIDS-related lymphomas.

- In the *NCI Field Studies and Statistics Program*, scientists are conducting epidemiological studies, looking at immunological profiles of healthy homosexual men in New York, Washington, D.C., and Denmark, and profiles of hemophiliacs without symptoms. In collaboration with laboratories at NIH and elsewhere, they also are conducting studies of individuals with AIDS or members of population groups at risk of developing AIDS.

- At the *Division of Virology, Office of Biologics, FDA*, Dr. Gerald Quinnan is studying the significance of cytomegalovirus (one of a group of herpes viruses) infection and cell-mediated (T-cell) immunity.

The FDA studies are aimed at understanding the basis for deficient cytotoxic T-cell responses—why the T-cells malfunction when normally they fight disease by attaching to and destroying foreign materials.

- At *NIDR*, Dr. John J. Hooks is examining the role of viruses and interferon in human immune system disorders. His studies indicate that the AIDS patients examined have abnormalities in their interferon system. These abnormalities are seen as a defect in the ability of the lymphocytes to produce interferon (usually of the gamma type), or has a significant increase in circulating interferon (usually of the alpha type).

- At the *Infectious Diseases Branch of the NINCDS*, Dr. John L. Sever and colleagues are conducting clinical and laboratory research on AIDS. NINCDS is collaborating with the California Regional Primate Research Center on the examination of tissue obtained from rhesus monkeys who have Simian Acquired Immune Deficiency Syndrome—a disorder which may be similar to AIDS.

They are looking for the presence of new viruses that might be the cause of SAIDS and for known viruses such as cytomegalo-

virus that can occur in animals with SAIDS.

The NINCDS scientists are also examining the transmissibility of SAIDS by innoculating unaffected rhesus monkeys with tissue obtained from monkeys with SAIDS.

- NIAID's intramural scientists are active in AIDS research. They are searching for an infectious agent (or agents) that might trigger this devastating disease, and conducting any immunologic studies. Several scientists are examining the immunoregulatory defect that occurs in these patients.

In the *Laboratory of Immunoregulation*, Dr. Anthony Fauci and colleagues are evaluating the excessive immunoglobulin production that is seen in contrast to the lack of T-helper cells in patients with AIDS.

(T-cells, produced by the thymus gland, include a class of cells that assist B cells and other T cells in their attack on viruses and other invaders. These are called "helper" cells.)

In the *Laboratory of Clinical Investigation*, NIAID scientists are evaluating the role of herpes infections and Epstein-Barr virus in relation to AIDS.

In the *Laboratory of Infectious Diseases*, other scientists are investigating the role of hepatitis in AIDS because virtually all AIDS patients have had hepatitis. NIAID scientists are also evaluating AIDS patients for parvoviruses, a group of DNA viruses.

- At the *NEI Clinical Branch*, Drs. Robert Nussenblatt, Alan Palestine, and Merlyn Rodrigues are studying the ocular lesions that occur in patients with AIDS. These studies have a dual purpose: to determine whether there are distinctive ocular signs that might aid in recognizing AIDS victims, and to obtain new clues about the role of the immune system in eye disease.

- NHLBI scientists are also working with the Clinical Center's Dr. Harvey Alter in examining plasma specimens in attempts to transfer a causative agent(s) taken from AIDS patients (hospitalized in the CC) to chimpanzees. The goal is to isolate a transmissible, infectious agent.

Dr. Abe Macher of the CC's Clinical Pathology Department coordinates the complex laboratory analyses required for the clinical workups of AIDS patients. Dr. Macher has diagnosed several unusual disorders now recognized as part of AIDS.

In another treatment attempt, a bone marrow transplant between twin brothers is being performed by NCI scientists. One twin is a healthy heterosexual, the other an AIDS-affected homosexual.

AIDS poses a considerable challenge to the NIH laboratory staff who are faced with the formidable task of examining numerous chemical, hematologic, and microbiologic findings based on extensive workups on AIDS patients.

All these findings are pieces of the AIDS mosaic, and the picture is just beginning to form. Much more extensive research is required to isolate the etiologic agent and develop treatment modes.

"NIH is a good medical center to study this kind of infectious and immunosuppressive disease problem," Dr. Masur said. "This is one of the few places in the country where you can get such a gathering of scientific experts and research facilities in the same place." □