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study AIDS in the labs and on the street

given DDC or DDI, which have a different sort of toxicity than AZT, as an alternative form of treatment, Pitt said.

The investigators will seek to combine the drugs with AZT to see if the combination, in lower doses, will be less toxic, but have a greater antiviral effect, she said.

The clinical studies are being performed in 13 pediatric centers across the country, because no individual center has enough patients to perform the study on its own, Pitt said.

The project, which receives \$700,000 each year, is not using its full resources, because they have not found enough patients who fit the criteria, Gershon said.

Ideally, the center would eventually like 30 children in the program, she added.

The group just received funding from the National Institute of Drug Abuse to attract more minority patients, drug abusing women and their children who are born addicted to be part of the program, Gershon said.

No results of the research have yet been established, and it will be several years before the data is ready, Gershon said.

Another facet of the program is that it provides social care for those involved.

“In addition to just treatment for the actual disease itself, the study has funds for making people’s lives better,” Gershon said.

This includes the help of a social worker, money for lunch, and help in searching for an apartment.

Pitt said another multicenter study on the transmission of HIV from mother to child is being conducted to determine if there are

HIV from mother to child is trying to determine if there are certain predictors of transmission, because not all children of infected mothers become infected.

Twenty-five to 30 percent of all babies born to mothers infected with AIDS turn out to be infected themselves, she said.

Over five years, the \$8.2 million study will examine the epidemiology, treatment, and expression of the disease, according to Principal Investigator Harold Fox.

The program will coordinate clinical care of women and children in addition to the research studies, Fox said.

“To do research, one has to be able to provide quality treatment and care,” Fox said.

All research related care and tests are provided free to the participants, Fox said.

Currently, there are 40 HIV-positive mothers and 15 HIV-positive pregnant women enrolled, Fox said, adding that some of the children involved are also participating in the other pediatric studies.

Their goal is to figure out what group of children needs early treatment intervention which will slow the progression of the disease, Pitt said.

The group is also trying to determine methods of early diagnosis, such as viral and immunologic tests, which would also allow for earlier intervention, she said.

Currently, it is not possible to definitively determine whether an infant is HIV infected until it is 18 months old, because when it is born it has maternal antibodies which cannot serve as a marker of infection, according to Pitt.

By studying immunoglobulin production, the group hopes to discover which children are infected before other signs manifest themselves, and then embark on early treatment, Fox said.

“The goal is to provide a detailed understanding of factors which predict transmission from mother to infant, factors of

infection on pregnancy, and factors of pregnancy on infection," Fox said.

Another transmission study which Columbia is pursuing hopes to use immunological and viral tests in addition to neurological and neurodevelopmental tests to detect HIV infection, Pitt said.

"Some HIV children will have some developmental delay," Pitt said.

This study seeks to determine whether this is due to the virus, and could therefore be used as an early marker, or whether this is due to the disorganized family situation in which these children find themselves, Pitt said.

Many of these children come from families where members are drug users, in prison, or dead, she said.

This method will track all children born to HIV infected mothers and will be especially useful because two-thirds of the children will not develop HIV and will therefore be good control models because all the other conditions will be the same, Pitt said.

The current method of taking viral cultures is cumbersome and expensive, Pitt said, in addition to not being accurate until the child is six to eight months old.

Pitt said they are hoping to discover a type of antibody which mothers do not pass to a baby because they cannot cross the placenta.

Such antibodies could serve as an indicator at birth that a child is infected with HIV, she said.

Finally, they are also trying to develop a sensitive test which will detect minuscule amounts of HIV DNA and RNA and then determine if the mate to these is in the child's cells, Pitt said.

In this way, they could determine if the child were infected with HIV, she added.

The third initiative which the pediatrics unit is pursuing

involves the cardiopulmonary state of perinatal HIV transmission, Pitt said.

They will be investigating cardiac function of the fetus and then cardiac and pulmonary functions early in the life of the child with the hope of identifying cardiac and pulmonary complications of HIV before they become a clinical problem, she said.

This will allow for early treatment, identification of the infection early on, and an understanding of the pathogenesis of the HIV infection, Pitt said.

Psychological Studies

In an effort to discover the neurological, psychological, and psychosocial effects which HIV infection has on an individual, Dr. Jack Gorman at the HIV Center for Clinical and Behavioral Studies at the New York State Psychiatric Institute and Columbia-Presbyterian Medical Center gathered a group of 200 gay and bisexual men and 200 male and female drug users about three years ago. This is a five year project funded by the National Institute of Mental Health.

About two thirds of the members of both groups are HIV positive and one-third are HIV negative, Gorman said.

“We haven’t had any of the negatives become positive, believe it or not,” he said.

Towards the beginning of the study, those who tested positive did not have AIDS and were mostly still asymptomatic, Gorman said.

The subjects involved in the study are volunteers and have shown themselves to be very dedicated to the study, resulting in the fact that many other scientists have decided to use this same population for their projects, he said.

Every six months, the subjects come for a day of extensive testing, he added.

“We want to know whether the brain and behavioral changes are a result of the illness,” Gorman said.

aspects influence the course of the illness," Gorman said.

Although all the data have not yet been analyzed, Gorman said that so far, according to psychiatric and medical studies, the two groups have shown surprisingly similar results.

"We don't see any evidence that the virus affects them any differently," he said.

Using standardized measures, interviews, and rating instruments, the Psychiatric/Psychosocial Assessment Core of the Center is using these subjects in their study of disease progression and predictors of the disease.

"Our team is interested in what, if any, psychiatric and psychosocial elements are involved in disease progression," said Core Principal Investigator Janet Williams.

One of the major questions they are seeking to answer is whether depression leads to a depressed immune system and therefore makes one more vulnerable to an opportunistic infection, Williams said.

They are also seeking to discover if being HIV positive makes a patient depressed, she added.

"If someone is very stressed, are they less able to ward off infection?" Williams asked.

After studying the data acquired in the first two interviews of gay men, researchers did not find a compelling relationship between depression and immune status, she said.

"Even the HIV positive gay men still maintain a high level of hope," Williams added.

The level of hope of the infected men is equivalent to that of HIV negative men, as rated by an objective scale, she said.

In addition, the researchers are studying the effect which social support has on the disease.

"If someone is well connected, there is a positive effect on health. They won't succumb as quickly as someone who is isolated," Williams said.

The goal is to learn if little social support makes someone

The goal is to learn if little social support makes someone more vulnerable, Williams said.

If there was a connection established, this could signal an area of possible intervention, she said.

If members of the community were aware of such a connection, those who are seriously depressed could be encouraged to seek treatment earlier or participate in a support group, she said.

Further, physicians of AIDS patients who were seriously depressed would know that it is more important for them to act quickly, she added.

The gay subjects involved in the study are about to enter their sixth set of interviews. Investigators have only analyzed data from the early sets of interviews.

“We have discovered a much lower prevalence of mental disorders at baseline than what is in the current literature,” Williams said.

In addition, they have discovered that rates of mental disorders are higher in the drug using population than the gay subjects, she added.

An interesting corollary of the study has been the discovery that a very high percentage of the gay men participating previously had alcohol and drug use disorders, but currently have few problems in this area, Williams said.

By discovering what mechanisms enabled them to break their addiction, others could make use of them, she added.

The different outcome of the HIV infec-

tion, including the death of some of the participants, enables the group to further investigate influences on the progression of the disease.

“Hopefully, we will answer the question of who survives longer and why,” Williams said.

Members of the Psychosexual Assessment Core are also talking to these subjects to investigate risk behavior, transmission, and continued risk behavior in high risk situations, Gorman said.

The Core is developing psychosexual interviews and questionnaires in addition to training and monitoring interviewers, said Principal Investigator Heino Meyer-Bahlburg.

“Does continued sexual risk behavior implying exposure to HIV contribute to the progression of the disease?” Meyer-Bahlburg asked.

Investigators also seek to discover whether the progression of the disease contributes to sexual functioning, Meyer-Bahlburg said.

“Even very early when most of the subjects are asymptomatic or show very few symptoms, there is a correlation between continued risk behavior and certain indicators of disease counts,” Meyer-Bahlburg said.

Of the six sets of interviews which have been done, only three have been analyzed.

So far, they have discovered that HIV-positive subjects have more sexual dysfunction than HIV-negative persons. Meyer-Bahl-

lburg said.

“HIV positivity will impair sexual functions,” he said.

Anke Ehrhardt, who is the director of the HIV Center and a co-principal investigator in the Psychosexual Assessment Core, worked with the women in this study.

“We were impressed from our study how rare consistent condom use is,” Ehrhardt said.

On the basis of this information, the HIV Center planned another study, which began three months ago, to get input, perceptions, and information on reality from black, Latino, and white women about condom use, use of a virucide, and development of a female condom, Ehrhardt said.

“Clearly, in general, women want a method under their own control,” Ehrhardt said. “There is a pervasive sense that you can’t trust men.”

But women do not want to let men “off the hook” when it comes to protection used during sex, Ehrhardt added.

Women requested that whatever is developed, it be something which is independent of the sexual encounter, such as a cream or jelly which could be inserted in the morning or a substance which could be injected weekly or monthly, Ehrhardt said.

In this study, investigators are asking the women involved what they think of the female condom, which “looks a little like a baggy,” is inserted in the vagina, and partially hangs out, Ehrhardt said.

out, Ehrhardt said.

“People find it pretty ugly, generally, but then, so are male condoms,” she said.

Research on the development of a virucide which would kill HIV is needed, she said.

The spermicide Nonoxynol-9 has been shown in lab tests to be an effective agent against HIV, Ehrhardt said.

“It’s not good enough in terms of being certain it will prevent passage into the blood stream,” she said.

In addition, studies in Africa recently showed that the spermicide irritated the vaginal skin, thus allowing entrance of the HIV through the inflamed tissue, defeating the purpose of the spermicide, she added.

Historical research

In an effort to understand the needs of the Harlem community for education on AIDS, a 22 year-old study on the life history of inner city non-Hispanic blacks has integrated questions about AIDS into its format, according to Senior Research Scientist in Public Health-Sociomedical Sciences Anne Brunswick.

In this added component of the investigation, questions about fears, attitudes and experience with AIDS, in addition to questions on knowledge about transmission and risk behaviors, are coupled with a request for a voluntary, anonymous blood samples which will be tested for HIV, Brunswick said.

The blood sample, which 75 percent of the sample population has given, allows the study to use a group infection rate in addition to

reported behavior, Brunswick said.

“Because of the threat to the inner-city black community which HIV poses, it is important to know the extent of infection in the community,” she said.

The study will obtain data on HIV infection while the individual is still asymptomatic, Brunswick said.

This study will allow the researchers to obtain a measure of the extent of infection among normal inner-city African-Americans, she added.

“This is producing important information about how far HIV has spread among certain kinds of people,” said Dobkin, who is a medical advisor for the study.

Those involved in the study were originally drawn as a representative sample of adolescents, 12 to 17 years of age, in 1968. The study, which began with 668 participants, has lost track of 13 percent of those involved, and is currently in its fourth wave of interviews.

The study tracks all aspects of life circumstances and health conditions including work history, health, drug use, fertility history, residence, household components, and attitudes toward life.

Interviews are done in person, in the home, by someone of the same race and sex. Since August 1989, when the fourth wave of interviews began, 340 have been completed.

Twelve percent of the original 351 men involved in the study have died, Brunswick

said.

Thirty-three percent of the deaths were due to HIV infection, drugs, and alcohol; 28 percent were due to homicide; 13 percent were due to natural causes; and the remaining 26 percent were due to other causes.

During the third wave of interviews, in 1983-84, AIDS was a disease still only identified with a homosexual population, Brunswick said.

“The whole idea of heterosexual transmission and shared needles wasn’t even thought of,” she added.

Because this is a blinded research study and no record is kept of who the blood samples belong to, all participants are encouraged to get their own test, and are given \$5 for car fare and a booklet about AIDS testing centers, Brunswick said.

In addition to these studies, researchers at Columbia are conducting many others.

“The longterm goal is to eliminate the problem rather than just make it better,” Pitt said.

Many HIV-infected children come from families where members are drug users, in prison, or dead.

“Hopefully, we will answer the question of who survives longer and why.”

“We were impressed from our study how rare consistent condom use is.”

Fighting AIDS

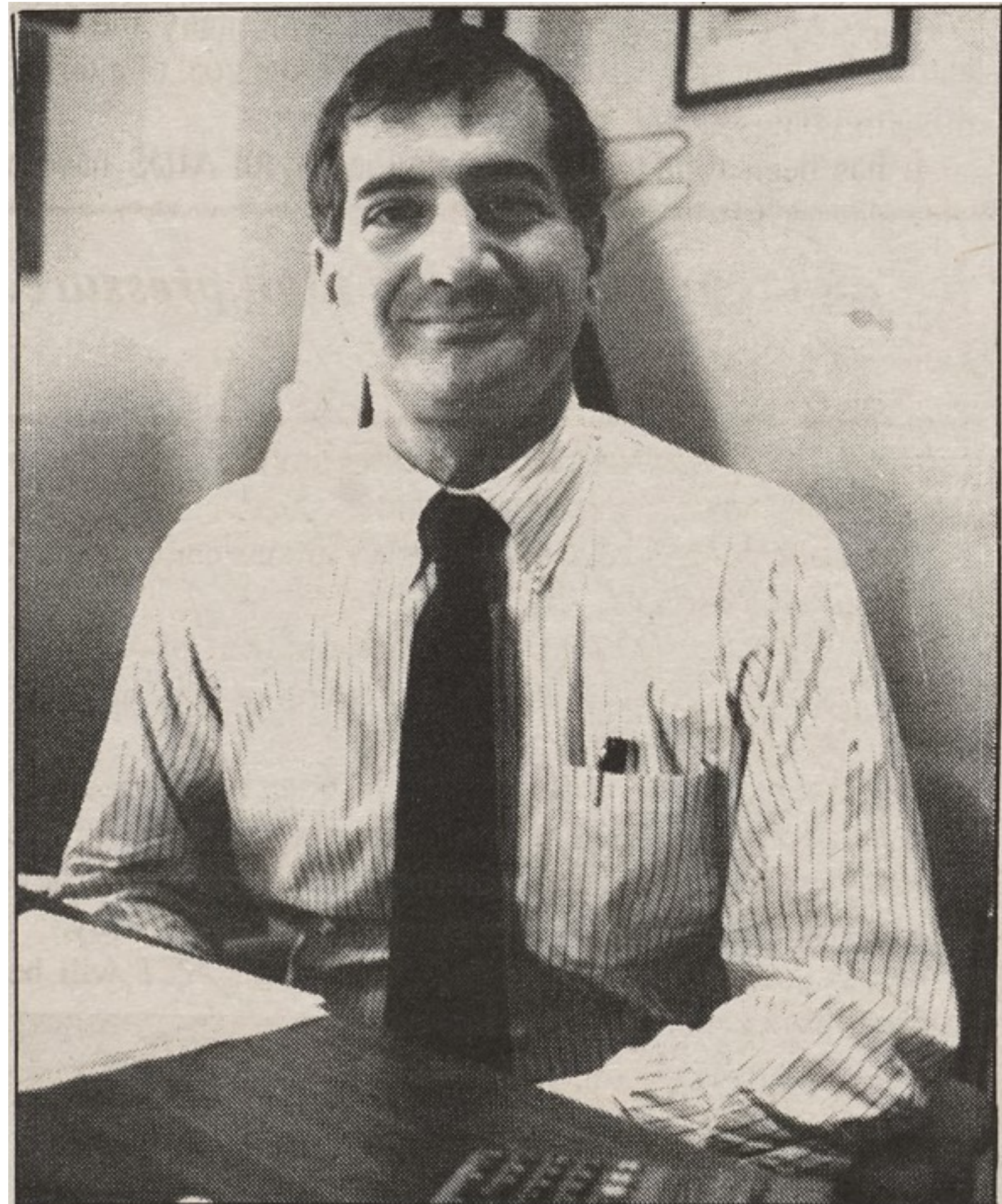
Facts about AIDS

The "AIDS virus" is a misleading term for HIV because this virus has not caused AIDS in all those it has infected. "AIDS" is a diagnostic category constructed by the Center for Disease Control to distinguish certain HIV-infected people with life threatening symptoms from other HIV-infected people. People who fit the CDC's criteria are described as having "CDC-defined AIDS" or "full-blown" AIDS. AIDS is the most harmful result of HIV infection, but only a minority of those infected have developed AIDS. The majority of HIV-related people have developed no symptoms or only minor symptoms. Others have developed AIDS, or the milder, not usually fatal condition called AIDS-Related Complex (ARC). (Source: The Essential AIDS Facts Book, put out by University Health Services)

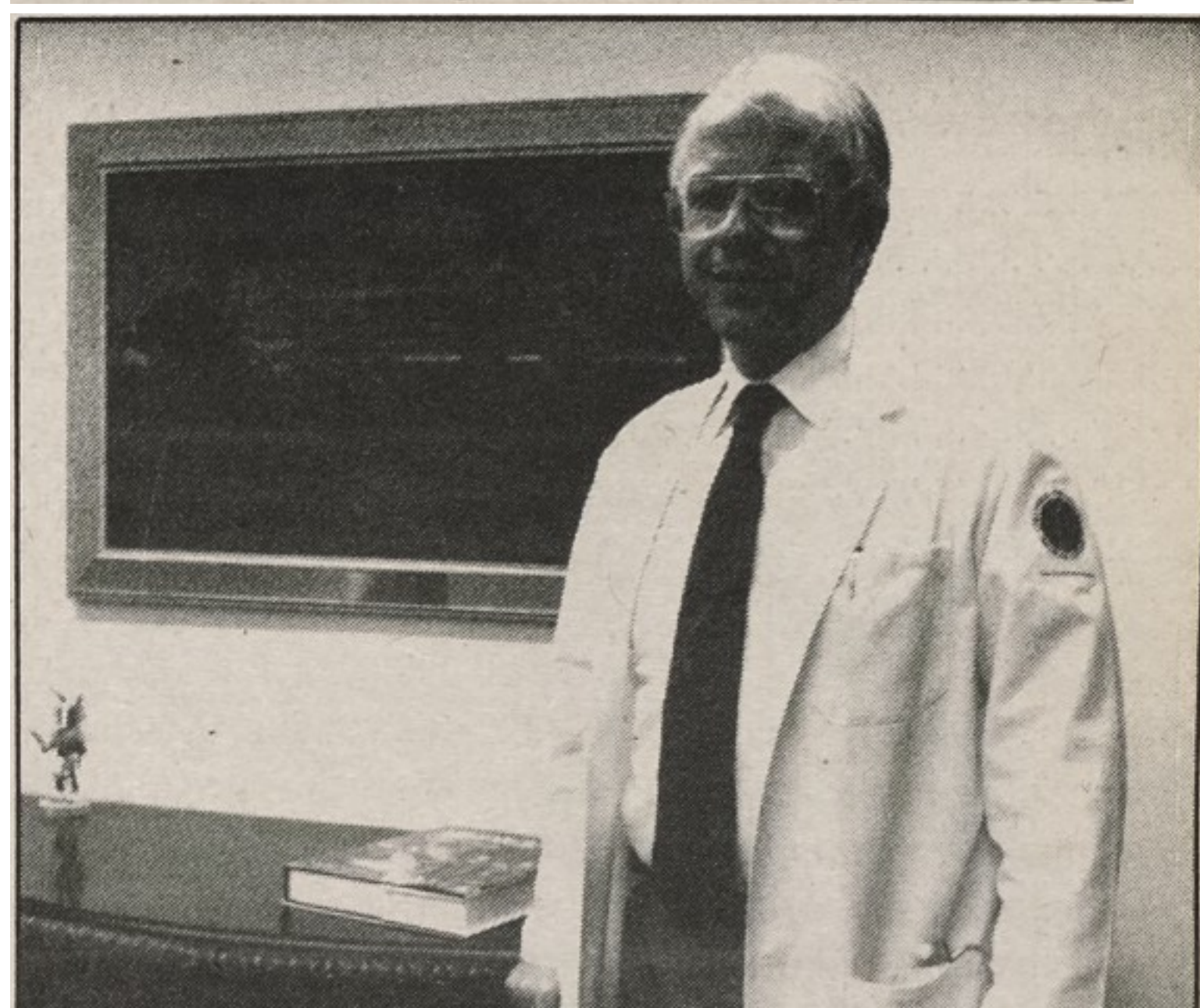
AIDS is the leading cause of death among men between 25 and 44 years old. "In 1991 alone more young Americans will die from AIDS than perished in the entire decade of the Vietnam War, and most of them will be gay," according to The Essential

AIDS Facts Book. "By the end of 1992 it is estimated that up to 365,000 people will have been diagnosed with AIDS in the United States."

For each person with AIDS, there are about 10 to 20 people who are HIV-infected



Dr. Jack Gorman of the HIV Center for Clinical and Behavioral Studies





SPECTATOR/ROMSAI BOONYASAI

Dr. Harold Fox

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