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WP

TUESDAY, MAY 12, 1987 A3

Genes May Play Role In Contracting AIDS

By Susan Okie
Washington Post Staff Writer

New research findings offer the first tentative answers to why some people exposed to the AIDS virus rapidly develop the full-blown disease, while some others have been exposed repeatedly without becoming infected.

How susceptible an individual is to becoming infected with the virus may depend on genetically inherited variations in a protein that is located on the surface of the body's cells, according to a study published recently in The Lancet, a British medical journal.

The study did not show that there are any "AIDS-proof" individuals. But it did find evidence to suggest that people with a particular, inherited form of a protein known as group specific component or Gc were relatively resistant to infection.

A different form of the Gc protein was found much more often than expected in patients infected with the virus who had full-blown acquired immune deficiency syndrome or other serious symptoms.

The new findings must be confirmed by other researchers before they can be applied to the medical care of AIDS victims and others infected with the virus. But researchers interviewed said the findings provided an important new clue to how the virus, known as human immunodeficiency virus, or HIV, gets inside the body's cells.

They said genetic variations in the Gc protein may also help explain why the disease has spread more rapidly in some parts of the world than in others.

"It's an interesting lead," said Dr. Peter J. Fischinger, deputy director of the National Cancer Institute.

The discovery may lead to new approaches to AIDS therapy, according to Lesley-Jane Eales, one of the authors of the British study. If the AIDS virus binds to the Gc protein, researchers may be able to block the binding "and in that way, slow down the spread in someone who is infected," she said.

The Gc protein is found in blood and on cell surfaces, where it binds to vitamin D and may have other, unknown functions. Researchers have found three chemical varieties (or variants) of the protein—known as Gc 1 fast, Gc 1 slow, and Gc 2.

Which variants are present in a person's blood depends on the genes coding for the protein, of which every person has two—one inherited from each parent. If both genes are the same, the individual makes only one variety of the protein. If the genes are different, the person makes two variants of the protein.

Scientists at St. Mary's Hospital Medical School in London studied Gc protein variants in 253 homosexual men, including some who had AIDS and some who had been exposed to the AIDS virus repeatedly without becoming infected. They compared these with the Gc protein variants in 122 healthy, uninfected, heterosexual men. Previous research had shown that the pattern of Gc protein variants found in healthy homosexuals was the same as in the general population.

The researchers found that 30.2 percent of the AIDS patients had two Gc 1 fast genes, compared with only 0.8 percent of the heterosexual "control" group. No AIDS patient had two Gc 2 genes.

In contrast, 25 percent of homosexual men who had escaped AIDS-virus infection despite repeated exposure had two copies of the Gc 2 gene. Only 9 percent of the control group had two Gc 2 genes. None of uninfected, exposed homosexual men had two copies of the Gc 1 fast gene.

The findings supported the view that having the Gc 1 fast gene predisposed an individual to infection with the AIDS virus and developing symptoms, while Gc 2 gene offered relative protection.

The Gc 1 fast variant of the protein contains sialic acid, a sugar, while the Gc 2 variant does not. The researchers postulated that the presence of the sialic acid on the protein might make it easier for the virus to attach to a cell and infect it.

Differences in the Gc protein variants found in different populations may help explain why AIDS has spread rapidly in central Africa and why blacks make up a disproportionately high percentage of AIDS victims in the United States.

The Gc 1 fast gene is the most common of the three variants in central Africa, and found more frequently in African blacks than in Caucasians, according to Dr. Stephen P. Daiger, a medical geneticist at the University of Texas Health Science Center.

THE WHITE HOUSE

Office of the Press Secretary

For Immediate Release May 4, 1987

STATEMENT BY THE ASSISTANT TO THE PRESIDENT FOR PRESS RELATIONS

Today the President approved the establishment of a national commission on AIDS. He directed his domestic policy staff to work with the Departments and Agencies to develop a charter.

The commission will (1) review research done to date and identify future areas of research that would be needed, (2) assess the long-term impact on our health care systems, (3) recommend ways to protect Americans who do not have the disease, and (4) suggest comprehensive, practical responses by both the public and private sectors.

The commission will report to the President on a periodic basis.

# # #

THE WHITE HOUSE

Office of the Press Secretary

For Immediate Release May 4, 1987

STATEMENT BY THE PRESIDENT

AIDS is clearly one of the most serious health problems facing the world community and our health care establishment is working overtime to find a cure. The commission will help us to ensure that we are using every possible public health measure to contain the spread of the virus.

# # #

THE WHITE HOUSE

Office of the Press Secretary
(Philadelphia, Pennsylvania)

For Immediate Release April 1, 1987

REMARKS BY THE PRESIDENT
UPON ARRIVAL

Philadelphia International Airport
Philadelphia, Pennsylvania

Q Mr. President, how are you going to -- your Education Secretary disagrees with the Surgeon General. The Surgeon General says that there should be specific sex education for children -- condoms, prevention, and specific information to really do something.

THE PRESIDENT: Well, I think that what the Secretary was saying is something I, myself, have said. I think that that particular subject should be taught in connection with values, not simply taught as a physical, mechanical process.

Q The Surgeon General is saying that if there isn't abstinence, that there should be --

Q The Surgeon General says that there should be specific --

THE PRESIDENT: What?

Q -- and there should be other means used. If there can't be abstinence, then the Surgeon General says there should be other means used.

THE PRESIDENT: Well, I don't quarrel with that. I don't quarrel with that, but I think that abstinence has been lacking in much of the education.

Q The Surgeon General says that there has to be specific sex education. Do you disagree with him?

THE PRESIDENT: That what?

Q You clearly disagree with your Surgeon General --

THE PRESIDENT: On what?

Q -- about the need for sex education at a very young age.

THE PRESIDENT: I said that if that education was accompanied by values. But one of the things that's been wrong with too much of our education is that no kind of values of right and wrong are being taught in the educational process. And I think that young people expect to hear from adults ideas of what is right or wrong.

Q What did you have to give away to win the highway veto -- (laughter.)

Q Are you going to sustain the highway bill?

THE PRESIDENT: What?

Q What are you going to do --

THE PRESIDENT: It's still up in the air there. I'm

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waiting for it to get straightened out.

Q Are you really spending enough money on AIDS? A lot of people --

THE PRESIDENT: We have increased the spending on that more than anything we've increased in the budget.

Q -- Congress has doubled what you've proposed. Congress has fixed it every year much more than what you've proposed.

THE PRESIDENT: Well, Congress is made up of spendthrifts. (Laughter.)

END

THE WHITE HOUSE

Office of the Press Secretary

For Immediate Release March 31, 1987

REMARKS BY THE PRESIDENT
AND FRENCH PRIME MINISTER JACQUES CHIRAC
FOLLOWING THEIR MEETING

The East Room

11:49 A.M. EST

THE PRESIDENT: Prime Minister Chirac and I are pleased to announce today an agreement that will foster international cooperative efforts in research, education and the exchange of technology dedicated to the eradication of AIDS.

An agreement has been reached between the Department of Health and Human Services and the L'Institut Pasteur, which resolves the differences between the two over the patent rights for the AIDS antibody test kit.

The two medical groups will share the patent and each party will contribute 80 percent of the royalties received to establish and support an international AIDS research foundation. This foundation, which will also raise private funds, will sponsor AIDS-related research and will donate 25 percent of the funds that they receive to education and research of AIDS problems in less developed countries.

This agreement opens a new era in Franco- American cooperation, allowing France and the United States to join their efforts to control this terrible disease in the hopes of speeding the development of an AIDS vaccine or cure.

So, Mr. Prime Minister, Dr. Bowen and Dr. Dedonder, we thank you all and I hope this is just one of the many cooperative efforts between our two countries in the years ahead.

Jacques?

PRIME MINISTER CHIRAC: Well, the President said what should be said. I just want to add how glad I am about this agreement to fight against this terrific disease.

We in the United States and France have very, very good and efficient scientists and we will now work together and also create a foundation to fight against AIDS. And it's, I think, a great step to be successful in this very important battle. And I'm very glad about it and I thank very much the Department of Health of the United States and L'Institut Pasteur de Paris for all what they have done.

THE PRESIDENT. All right. I think that's all.

END 11:51 A.M. EST

UNITED STATES DEPARTMENT OF EDUCATION
WASHINGTON, D.C. 20202

January 30, 1987

OFFICE OF THE SECRETARY

STATEMENT ON AIDS EDUCATION

AIDS is a serious threat to our citizenry. Education has a fundamental role to play in teaching our young people how to avoid that threat. With the appropriate involvement and approval of parents and the local community, schools should help teach young people about the danger of AIDS.

1. Our young people deserve the best scientific information about this disease, and the ways in which it is transmitted. The Federal Government has a responsibility to provide such information to local educational authorities.

2. As in other areas, decisions as to the proper timing, particular course content, and the like are fundamentally ones for States, and local communities to make. But if schools do teach sex education, such courses should include a discussion of the threat posed by AIDS. And as with sex education courses in general, it is especially important in a sensitive area like this one that school officials consult widely with parents, local public health officials and community members to determine when and how to introduce such material into the classroom.

3. Young people must be told the truth -- that the best way to avoid AIDS is to refrain from sexual activity until as adults they are ready to establish a mutually faithful monogamous relationship. Since sex education courses should in any case teach children why they should refrain from engaging in sexual intercourse, AIDS education should confirm the message that should already be there in the sex education curriculum. AIDS education (as part of sex education in general) should uphold monogamy in marriage as a desirable and worthy thing.

4. AIDS education guided by these principles can help protect our children from this terrible disease. But an AIDS education that accepts children's sexual activity as inevitable and focuses only on "safe sex" will be at best ineffectual, at worst itself a cause of serious harm. Young people should be taught that the best precaution is abstinence until it is possible to establish a mutually faithful monogamous relationship.

With regard to AIDS, science and morality teach the same lesson. The Surgeon General's Report on AIDS makes it clear that the best way to avoid AIDS is a mutually faithful monogamous sexual relationship. Until it is possible to establish and maintain such a relationship, abstinence is safest.

William J. Bennett
Secretary of Education

C. Everett Koop, M.D.
Surgeon General

SECRETARY WILLIAM J. BENNETT'S RESPONSE
TO PLANNED PARENTHOOD POLL AND PRESS RELEASE
"AMERICAN TEENS SPEAK"
December 16, 1986

I agree with American teen-agers that we adults--including parents and teachers--owe them a more serious discussion of sexual matters than some of us now provide. I am also impressed that a huge majority of our teen-agers disagree with those who want to impose school-based birth-control clinics on them. In this judgment, our students have shown more maturity and common sense than some of their elders.

STATEMENT OF SECRETARY BENNETT
REGARDING REPORT OF
THE NATIONAL RESEARCH COUNCIL
December 9, 1986

This is not the first time a prestigious sounding group has advocated a dumb policy -- school-based birth control clinics -- that will damage our schools and our children. I'm sure this group had good intentions; I just wish it had more wisdom and common sense.

Bennett Statement 10-22-86

Like most Americans, I believe that children should be taught about the physical, psychological and moral consequences of sexual activity. A frank discussion of the danger of AIDS should certainly be part of this. But before teaching a specific curriculum, schools should get parental involvement and approval.

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AIDS-SURGEON GENERAL

LOS ANGELES (AP) -- SEX EDUCATION SHOULD BEGIN IN EARLY GRADES SO CHILDREN WILL KNOW HOW TO PROTECT THEMSELVES FROM AIDS, SURGEON GENERAL C. EVERETT KOOP SAYS IN A REPORT ON THE DEADLY DISEASE, THE LOS ANGELES TIMES REPORTED.

KOOP'S REPORT, WHICH WAS TO BE ISSUED TODAY, ALSO SAYS THAT ACQUIRED IMMUNE DEFICIENCY SYNDROME SHOULD NOT BE USED AS AN EXCUSE FOR DISCRIMINATION, THE NEWSPAPER SAID.

SEX EDUCATION ''MUST START AT THE LOWEST GRADE POSSIBLE ... SO THAT CHILDREN CAN GROW UP KNOWING THE BEHAVIOR TO AVOID TO PROTECT THEMSELVES,'' THE REPORT SAID.

''THERE IS NOW NO DOUBT THAT WE NEED SEX EDUCATION IN SCHOOLS AND THAT IT INCLUDE INFORMATION ON HETEROSEXUAL AND HOMOSEXUAL RELATIONSHIPS,'' KOOP WROTE. ''THE NEED IS CRITICAL AND THE PRICE OF NEGLECT IS HIGH. THE LIVES OF OUR YOUNG PEOPLE DEPEND ON OUR FULFILLING OUR RESPONSIBILITY.''

THE TIMES, QUOTING UNIDENTIFIED SOURCES, SAID THE REPORT WAS PRESENTED TO PRESIDENT REAGAN EARLIER THIS MONTH AND WAS APPROVED BY THE WHITE HOUSE.

THE REPORT WAS QUOTED AS SAYING THAT QUARANTINING PATIENTS ''HAS NO ROLE IN THE MANAGEMENT OF AIDS BECAUSE AIDS IS NOT SPREAD BY CASUAL CONTACT.''

''AIDS SHOULD NOT BE USED AS AN EXCUSE TO DISCRIMINATE AGAINST ANY GROUP OR INDIVIDUAL,'' KOOP WROTE.

AIDS IS A DISEASE IN WHICH A VIRUS ATTACKS THE BODY'S IMMUNE SYSTEM, LEAVING VICTIMS SUSCEPTIBLE TO A WIDE VARIETY OF INFECTIONS AND CANCERS. IT IS MOST OFTEN TRANSMITTED THROUGH SEXUAL CONTACT.

IN THE UNITED STATES, AIDS HAS SO FAR BEEN LARGELY CONFINED TO MALE HOMOSEXUALS, HEMOPHILIACS AND INTRAVENOUS DRUG ABUSERS.

AS OF SEPT. 29, AIDS HAS BEEN DIAGNOSED IN 25,650 PEOPLE IN THE UNITED STATES AND CLAIMED 14,345 LIVES, ACCORDING TO THE CENTERS FOR DISEASE CONTROL IN ATLANTA.

AP-WX-10-22-86 1200EDT

UNITED STATES DEPARTMENT OF EDUCATION
THE SECRETARY

For Release
January 22, 1987 9 A.M. (EST)

Contact: Lou Mathis
(202) 732-4302

ADDRESS BY

WILLIAM J. BENNETT

UNITED STATES SECRETARY OF EDUCATION

SEX AND THE EDUCATION OF OUR CHILDREN

National School Boards Association

Hyatt Regency Capitol Hill
400 New Jersey Avenue, N.W.
Washington, D.C.

January 22, 1987

I've spent a good deal of my time as Secretary of Education talking about character. I've said that schools, teachers, and principals must help develop good character. I've said that they don't have to reinvent the wheel -- we don't have to add special courses or devise new materials for the purpose of instilling character in the young. There is no great mystery or trick to this task -- parents and teachers have been doing it for centuries. We simply need to put students in the presence of adults of sound character, adults who know the difference between right and wrong, who will articulate it to children, who will remind them of the human experience with that difference, and who will live that difference in front of them. Aristotle gave us this prescription more than two thousand years ago: In order to teach good character, expose children to good character, and invite its imitation. It has been the experience of mankind, confirmed by the findings of contemporary psychology, that this prescription works, that it still works.

Today I would like to talk about one place in which attention must be paid to character in an explicit, focused way. That is in the classroom devoted to sex education. It would be undesirable, but a teacher could conduct large portions of a class in English or history without explicit reference to questions of character. But to neglect questions of character in a sex education class would be a

great and unforgivable error. Sex education has to do with how boys and girls, how men and women, treat each other and themselves. It has to do with how boys and girls, how men and women, should treat each other and themselves. Sex education is therefore about character and the formation of character. A sex education course in which issues of right and wrong do not occupy center stage is an evasion and an irresponsibility.

Sex education is much in the news. Many states and localities are considering proposals to implement or expand sex education curricula. I understand the reasons why such proposals are under consideration. And indeed, polls suggest that a substantial majority of the American people favor sex education in the schools. I too tend to support the idea. It seems reasonable to the American people -- and to me -- for the schools to provide another opportunity for students to become both more knowledgeable and more thoughtful about this important area of life. To have such matters treated well by adults whom students and their parents trust would be a great improvement on the sex curriculum available on the street and on television.

For several years now, though, I have been looking at the actual form the idea of sex education assumes once it is in the classroom. Having surveyed samples of the literature available to the schools, and having gained a sense of the attitudes that pervade some of this literature, I must say this: I have my doubts. It is clear to me that some programs of sex education are not constructive. In fact, they may be just the opposite. In some

places, some people, to be sure, are doing an admirable job. But in all too many places, sex education classes are failing to give the American people what they are entitled to expect for their children, and what their children deserve.

Seventy percent of all high school seniors had taken sex education courses in 1985, up from 60 percent in 1976. Yet when we look at what is happening in the sexual lives of American students, we can only conclude that it is doubtful that much sex education is doing any good at all. The statistics by which we may measure how our children -- how our boys and girls -- are treating one another sexually are little short of staggering:

* More than one-half of America's young people have had sexual intercourse by the time they are 17.

* More than one million teenage girls in the United States become pregnant each year. Of those who give birth, nearly half are not yet 18.

* Teen pregnancy rates are at or near an all-time high. A 25 percent decline in birth rates between 1970 and 1984 is due to a doubling of the abortion rate during that period. More than 400 thousand teenage girls now have abortions each year.

* Unwed teenage births rose 200 percent between 1960 and 1980.

* Forty percent of today's 14-year-old girls will become pregnant by the time they are 19.

These numbers are, I believe, an irrefutable indictment of sex education's effectiveness in reducing teenage sexual activity and pregnancies. For these numbers have grown even as sex education

has expanded. I do <u>not</u> suggest that sex education has <u>caused</u> the increase in sexual activity among youth; but clearly it has not prevented it. As Larry Cuban, professor of education at Stanford University, has written, "Decade after decade . . . statistics have demonstrated the ineffectiveness of such courses in reducing sexual activity [and] teenage pregnancy. . . . In the arsenal of weapons to combat teenage pregnancy, school-based programs are but a bent arrow. However, bent arrows do offer the illusion of action."

Why do many sex education courses offer merely the illusion of action? When one examines the literature and materials available to the schools, one often discovers in them a certain pervasive tone, a certain attitude. That attitude is this: Offer students technical information, offer the facts, tell them they have choices, and tell them what the consequences of those choices could be, <u>but do no more</u>. And there is the problem.

Let me give you a few examples. And let me say that these are not "worst case" examples -- that is, they are not examples of the most controversial and provocative material used in some sex education courses. These are, rather, examples of approaches commonly used in many schools.

A curriculum guide for one of the largest school systems in the country suggests strategies to "help students learn about their own attitudes and behaviors and find new ways of dealing with problems." For example, students are given the following so-called "problem situation," asked to "improvise dialogue" and "act it out," and then discuss "how everyone felt about the interactions."

Susan and Jim are married. He becomes intoxicated and has sex with his secretary. He contracts herpes, but fails to tell Susan.

*What will happen in this situation?
*How would you react if you were Susan and found out?

The so-called "Expected Outcome" of this exercise of "acting out" and "interacting" is to get the student "to recognize sexually transmitted diseases as a threat to the individual."

Another lesson presents a situation of an unmarried girl who has become pregnant. Various parties in her life recommend various courses of action -- from marriage to adoption to abortion. Having described the situation, the teacher is then supposed to ask the following questions:

*Which solution do you like best? Why?
*Which solution do you like least? Why?
*What would you do if you were in this situation?

And the "Expected Outcome" of this exercise is "to identify alternative actions for an unintended pregnancy." Now we know what will likely happen in the classroom discussion of this lesson. Someone will opt for one course of action, others will raise their hands and argue for something else, more will speak, the teacher will listen to all opinions, and that will be that. The teacher will move on, perhaps saying the discussion was good -- that students should be talking about this, and that as long as they are talking about it, even if they do not arrive at a clear position, they are somehow being educated.

Now the point I would like to make is that exercises like these deal with very complex, sensitive, personal, serious, and often agitated situations -- situations that involve human beings at their deepest levels. But the guiding pedagogical instruction to teachers in approaching all such "Sensitive and Personal Issues" is this, and I quote: "Where strong differences of opinion exist on what is right or wrong sexual behavior, objective, informed and dignified discussion of both sides of such questions should be encouraged." And that's it -- no more. The curriculum guide is loaded with devices to help students "explore the options," "evaluate the choices involved," "identify alternative actions," and "examine their own values." It provides some facts for students, some definitions, some information, lots of "options" -- but that's all.

What's wrong with this kind of teaching? First, it is a very odd kind of teaching -- very odd because it does not teach. It does not teach because, while speaking to a very important aspect of human life, it displays a conscious aversion to making moral distinctions. Indeed, it insists on holding them in abeyance. The words of morality, of a rational, mature morality, seem to have been banished from this sort of sex education.

To do what is being done in these classes is tantamount to throwing up our hands and saying to our young people, "We give up. We give up. We give up on teaching right and wrong to you. Here, take these facts, take this information, and take your feelings,

your options; and try to make the best decisions you can. But you're on your own. We can say no more." It is ironic that, in the part of our children's lives where they may most need adult guidance, and where indeed I believe they most want it, too often the young find instead an abdication of responsible moral authority.

Now I ask this: Do we or do we not think that sex for children is serious business, entailing serious consequences? If we do, then we need to be more than neutral about it in front of our children. When adults maintain a studiously value-neutral stance, the impression likely to be left is that, in the words of one twelfth-grader, "No one says not to do it, and by default they're condoning it." And a sex education curriculum that simply provides options, and condones by default, is not what the American people want -- nor is it what our children deserve.

It is not that the materials used in most of our schools are urging students to go out and have sexual intercourse. In fact, they give reasons why students might want to choose not to have intercourse, and they try to make students "comfortable" with that decision. Indeed, you sometimes get the feeling that, for these guides, being "comfortable" with one's decision, with exercising one's "option," is the sum and substance of the responsible life. Decisions aren't right or wrong, decisions simply make you comfortable or not. It is as though "comfort" alone had now become our moral compass. These materials are silent as to any other moral standards, any other standards of right and wrong, by which a

student might reach a decision to refrain from sex and which would give him or her the inner resources to stick by it.

It seems to me, then, if this is how sex education goes, that we should not wonder at its failure to stem the rising incidence of teenage sex, teenage pregnancies, teenage abortions, and single teenaged parents. One developer of a sex education curriculum recently said, "If you measure success in terms of reduction of teen pregnancy, I don't know if it has been successful. But in terms of orientation and preparation for students to comfortably incorporate sexuality into their lives, it has been helpful." There's that telltale "comfortable." But American parents expect more than that from their schools. Americans consistently say that they want our schools to provide reliable standards of right and wrong to guide students through life. In short, I think most Americans want to urge not what might be the "comfortable" thing, but the right thing. Why are we so afraid to say what that is?

I believe the American people expect from sex education courses in the schools that their children will be taught the basic information, the relevant biology, the relevant physiology -- what used to be called the "facts of life." But they also expect that those facts will be placed in a moral context. In a recent national poll, 70 percent of the adults surveyed said they thought sex education programs should teach moral values, and about the same percentage believe the programs should urge students not to have sexual intercourse. And, believe it or not, the sense of adults on

this matter is actually confirmed by the young people who take the sex education courses. According to a recent survey, seventh and eighth graders say that the single greatest influence on their intention to engage or not to engage in intercourse is the fact that "It is against my values for me to have sex while I am a teenager." Social science researchers report that mere factual "knowledge alone has little impact, and that even peer pressure is less powerful" than what they call "the student's internalized beliefs and values."

How, then, might sex education do better in shaping the beliefs and values of our children? It could do better by underpinning the whole enterprise with a frank attention to the _real_ issue, which has to do with responsibility for oneself and for one's actions. In the classroom, as at home, this means explaining and defending moral standards in the area of sex, and offering explicit moral guidance. For example, why not say in schools to students exactly what most American parents say at home: Children should not engage in sexual intercourse. Won't our children better understand such a message, and internalize it, if we say it to them -- and if we say it in school as well as at home? Why isn't this message being taught in more classrooms? Why isn't this said?

In general, there seem to be three common excuses as to why the schools cannot teach such lessons in character.

First, it is said that, given the diversity of today's society, you could never determine whose values to put into the sex education curriculum, and anyway you should not indoctrinate the young with your beliefs or anyone else's. Apparently being

"comfortable" with one's decision is the only consensual value left.

I cannot buy this reasoning because it seems to me that, when it comes to the well-being of our children, there are certain precepts to which virtually all Americans adhere. For example, I have never had a parent tell me that he or she would be offended by a teacher telling a class that it is better to postpone sex. Or that marriage is the best setting for sex, and in which to have and raise children. On the contrary, my impression is that the overwhelming majority of parents would gratefully welcome help in transmitting such values. And I don't think they would view this as indoctrination. It is simply ethical candor. To put students in the presence of a mature adult who speaks honestly and candidly to them in this way is not to violate their rights or to fail to respect their diversity.

Second, it is said by some that teenage sex is so pervasive now that we should simply face reality and surrender any quaint moral notions we continue to harbor about it. The kids are going to "do it" no matter what, so we ought to be trying to head off pregnancies by making sure they have contraceptives. As a member of one Washington lobbying organization said last month, "All of us wish teenagers wouldn't have sex, but Reagan and Bennett are dealing with the world as they would like it and we're looking at it as it is." Well, Reagan and Bennett <u>are</u> talking about the world as it is, and I would like to assert that it violates everything a school stands for simply to throw in the towel and say, "O.K. We give up.

It's not right, but we can't seem to do anything about it, so we're not going to worry about it any more." That is no lesson in good character, either. Yes, sex entices from many parts of the culture. So does violence. So do drugs. But school is supposed to be better, and do better, and point to a better way. After all, we can accept reality while also trying to shape it and improve it. If school were no better than TV, parents would just leave their children to sit at home and watch the tube all day long. School is supposed to be better. Parents who are trying to do better for their children, who are trying to shape their children's character, need an ally in the schools. They do not need another opponent, or, almost as bad, an unprotesting "option" provider. And furthermore, not "everybody" is doing it, and we might wish to give those youngsters -- half of our seventeen-year-olds -- support and reinforcement, too.

There is simply no reason to assume that efforts to shape character in matters of sex are doomed to failure. In fact, there are encouraging signs to the contrary. A teen services program at Atlanta's Grady Memorial Hospital, for example, found that of the girls under age 16 it surveyed, nine out of ten wanted to learn how to say "no." Let me underline this. This is not just Reagan and Bennett talking, it's girls under 16 talking. Well, one way to help them say "no" is for adults who care to teach them the reasons to say "no", and to give them the necessary moral support and encouragement to keep on saying it.

The third excuse for giving up on the teaching of character

in sex education was stated most recently by a panel of scientific experts. The much publicized report on teenage pregnancy by the National Research Council of the National Academy of Sciences draws one conclusion that few, I think, would disagree with: sexual activity among teenagers is intimately connected with issues of self-image. As the report states, "Several studies of social and psychological factors associated with adolescents' sexual behavior conclude that self-perception (not self-esteem) -- that is, the sense of what and who one is, can be, and wants to be -- is at the heart of teenagers' sexual decision making."

This would be a good starting point for any educational project aimed at helping our children understand ways in which premature sex hinders the possibilities of becoming who they can be, who they want to be. But, strangely enough, the National Research Council reverses course, saying, "[W]e currently know very little about how to effectively discourage unmarried teenagers from initiating intercourse." Rather than drawing a conclusion from the studies on self-perception, the Council simply accepts the inevitability of teenage sexual activity, and urges "making contraceptive methods available and accessible to those who are sexually active and encouraging them to diligently use these methods" as "the surest strategy for pregnancy prevention."

I have a couple of observations about this. One, there is no evidence that making contraceptive methods more available is the surest strategy for preventing pregnancy -- to say nothing about preventing sexual activity. Nor is it true that "we currently know

very little about how to effectively discourage unmarried teenagers from initiating intercourse." It is true that what we know about such matters is not easily amenable to being measured and quantified. Nevertheless, we <u>do</u> know how to develop character and reinforce good values. We've known for quite a long time. As columnist William Raspberry has said, you do it the old-fashioned way. You make it clear to young people that there are moral considerations in life. You make it clear through habit, example, precept, and the inculcation of priorities. This is not only possible, it has been tested and proven through centuries of experience. It seems to me that the National Research Council is acting with an extravagantly single-minded blindness when it simply, in the name of science, ignores such experience, and offers instead a highly mechanical and bureaucratic solution -- more widely available contraceptives in the schools.

The National Research Council's solution betrays a view of sex -- and of life -- that is dangerous for our children. For to suggest to our children that really the only things that matter about sexual activity are pleasure, or "comfort," or getting pregnant, or getting a sexually transmitted disease -- to suggest that the act of sexual intimacy is not significant in other ways -- is to offer them still another very bad lesson. Why? Because it's false. It's false because, as every adult knows, sex is inextricably connected to the psyche, to the soul, -- or if you don't like that term -- to personality at its deepest levels. Rarely is it a mere riot of the glands that occurs and then is over

and meaningless thereafter. Sexual intimacy changes things -- it affects feelings, attitudes, one's self-image, one's view of another. Sexual activity never takes place outside the wider context of what is brought to it or left out of it by the persons who engage in it. It involves men and women in all their complexity; it involves their emotions, desires, and the often contradictory intentions that they bring with them, whether they mean to or not. It is, in other words, a quintessentially moral activity.

All societies have known this and have taken pains to regulate sexual activity. All societies have done so, sometimes wisely, sometimes not, because they have recognized that sex is fraught with mystery and passion, and that sex involves the person at the deepest level of being. As John Donne wrote, "Love's mysteries in _souls_ do grow." Poets, novelists, philosophers, saints, and most psychiatrists have known that the power and beauty of sex lie precisely in the fact that it is _not_ like anything else, that it is not just something you like to do or don't like to do. Far from being value-neutral, sex may be among the most value-loaded of any human activity. It does no good to try to sanitize or deny or ignore this truth. The act of sex involves deep springs of conduct. It is serious. It has complicated and profound repercussions. And if we're going to deal with it in school, we'd better know this and acknowledge it. Otherwise, we should not let our schools have anything to do with it.

Our children, too, ought to know this. We ought to tell it

to them. Not to tell them, to make sex out to be something less special and powerful than it is, is a dodge and a lie. It is just as much a dodge as denying the importance of sex or silencing a child who is awakening to an interest in sex. We serve children neither by denying their sexuality nor by making it a thing of no moral account.

With these thoughts in mind, I would like to offer a few principles that speak to the task of educating schoolchildren about sex, principles which I believe should inform curricular materials and textbooks, and by which such materials could be evaluated. These principles are, I believe, what most American parents are looking for in sex education.

First, we should recognize that sexual behavior is a matter of character and personality, and that we cannot be value neutral about it. Neutrality only confuses children, and may lead them to conclusions we wish them to avoid. Specifically: <u>sex education courses should teach children sexual restraint as a standard to uphold and follow</u>.

Second, in teaching restraint, courses should stress that <u>sex is not simply a physical or mechanical act</u>. We should explain to children that sex is tied to the deepest recesses of the personality. We should tell the truth; we should describe reality. We should explain that sex involves complicated feelings and emotions. Some of these are ennobling, and some of them -- let us be truthful -- can be cheapening of one's own finer impulses and cheapening to others.

Third, <u>sex education courses should speak up for the institution of the family</u>. To the extent possible, when they speak of sexual activity, courses should speak of it in the context of the institution of marriage. We should speak of the fidelity, commitment, and maturity of successful marriages as something for which our students should strive.

To the girls, teachers need to talk about the readiness for motherhood. And they must do more. They must not be afraid to use words like "modesty" and "chastity." Teachers and curriculum planners must be sure that sex education courses do not undermine the values and beliefs that still lead most girls to see sexual modesty as a good thing. For it is a good thing, and a good word. Let us from time to time praise modesty. And teachers must not be afraid to teach lessons other girls have learned from bitter experience. They should quote Lani Thompson, from T.C. Williams High School in Alexandria, Virginia, who says of some of her friends: "I get upset when I see friends losing their virginity to some guy they've just met. Later, after the guy's dumped them, they come to me and say, 'I wish I hadn't done it.'"

And the boys need to hear these things too. In discussing these matters, teachers should not forget to talk to the boys. They should tell the boys what it is to be a father, what it is to be ready to be a father, what the responsibilities of being a father are. And they should tell them how the readiness and responsibility of being a father should precede or at least accompany the acts which might make them fathers.

Fourth, <u>sex education courses should welcome parents and other adults as allies</u>. They should welcome parents into sex education classrooms as observers. If they do not, I would be suspicious. They should inform parents of the content of these courses, and they should encourage parents and children to talk to each other about sex. Studies show that when parents are the main source of sex education, children are less likely to engage in sex. This should come as no surprise when one remembers that the home is the crucible of character, and that parents are children's first and foremost teachers.

Many parents admit that they do not do enough to teach their children about sex. But still parents, more than anyone else, make the difference. Sex education courses can help remind those parents of their responsibilities. And these courses should encourage the individual counsel of priests, ministers, rabbis, and other adults who know a child well and who will take the time and offer the advice needed for that particular child. For it is the quality of the care and time that individuals take with other individuals which means the most in the formation of character.

Finally, schools, parents and communities should pay attention to who is teaching their children about sex. They should remember that teachers are role models for young people. And so <u>it is crucial that sex education teachers offer examples of good character</u> by the way they act, and by the ideals and convictions they must be willing to articulate to students. As Oxford's Mary Warnock has written, "you cannot teach morality without being

committed to morality yourself; and you cannot be committed to morality yourself without holding that some things are right and others wrong."

These, then, are some of the principles I would like to see standing behind our schools' sex education courses. The truth, of course, is that what I think in this matter isn't as important as what you think. I don't have any schools. You've got the schools, and part of your job is to help inform the philosophies that guide them. Above all else, then, I would urge you, as you think about those philosophies, to make sure your schools are teaching our children the truth. Sometimes the simplest way to recognize the truth is to consult common sense. Let me urge you to follow your common sense. Don't be intimidated by the sexologists, by the so-called sex-ed experts, by the sex technicians. Character education is mostly a matter of common sense. If sex education courses are prepared to deal with the truth, with reality in all its complexity, with the hard truths of the human condition, then they should be welcome in our schools. But if sex education courses are not prepared to tell the truth, if instead they want to simplify or distort or omit certain aspects of these realities in this very important realm of human life, then we should let them go out of business. If sex education courses do not help in the effort to provide an education in character, then let them be gone from the presence of our children.

TRANSCRIBED EXCERPT OF REMARKS

by

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UNITED STATES SECRETARY OF EDUCATION

to

EDUCATION WRITERS ASSOCIATION

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Another example: teenage, out of wedlock pregnancy. We have seen now in places around the country what I regard as a classic bureaucratic response to this problem: setting up birth control clinics in schools. Now this is obviously a local decision, but I would say this to any locality considering it: you had better be sure -- really sure -- that you have consulted fully and thoroughly with parents and the community. Or you may find that you have created a full enrollment policy for private schools.

And let me say more, if I may. Of course this is a local decision and not a decision for the Secretary of Education. It is a judgment not about birth control in general but about birth control in the schools. First of all, in my view, this is not what school is for. School should be predominantly and overwhelmingly about learning -- about math and English and history and science. But even as an additional function of the school, it is my view that this response to teenage pregnancy -- what I've described and talked about -- is the wrong kind of response to the problem. It offers a bureaucratic solution -- a highly questionable, if not offensive one -- in place of the exercise of individual responsibility, not just by the children but by the adults around them. Further, it tends to legitimate the very

behavior whose natural consequences it intends to discourage. And further yet, it encourages those children who do not have sexual intimacy on their minds to have it on their minds, to be mindful of it. Or it suggests to these young people that they're somehow behind the times. It thrusts upon those young people with scruples about sexual intimacy a new publicly legitimated possibility. And it does this in school. The child sees those in authority over him or over her acknowledging as commonplace what ought not to be commonplace and what parents do not wish, with good reason, to be commonplace. If individual parents wish, there are many other places to which they can take their children for professional help and guidance. But the wholesale use of the school is not the way to do it.

Birth control clinics in schools may prevent some births. That I wouldn't deny. The question is: what lessons do they teach, what attitudes do they encourage, what behaviors do they foster? I believe there are certain kinds of surrender that adults may not declare in the presence of the young. One such surrender is the abdication of moral authority. Schools are the last place this should happen. To do what is being done in some schools, I think, is to throw up one's hands and say "We give up. We give up. We give up on teaching right and wrong to you, there is nothing we can do. Here, take these things and limit the damage

done by your actions." If we revoke responsibility, if we fail to treat young people as moral agents, as people responsible for moral actions, we fail to do the job of nurturing our youth.

AIDS file

DRAFT

Recommended actions to stop <u>THE SPREAD OF THE DEADLY AIDS VIRUS IN AMERICA</u>

I. <u>Policy Statements</u>:

- o Statements should recognize the importance of conscience, morality and ethics in sexual liaisons. There should be a clear and unambiguous affirmation of the desirability of monogamous, heterosexual relationships.

- o Statements should not state <u>without qualification</u> that the AIDS virus cannot be transmitted casually. The literature describes instances of apparent casual transmission: a case involving the brother of an infected child (where the most likely means of transmission was a bite that did not break the skin); a case of husband to wife transmission through saliva; strong suspicion of cases involving mosquitoes as the agent of transmission (Florida Institute of Tropical Medicine); two cases of health-care workers in contact with contaminated blood.

- o Statements should note that transmission other than by sexual and blood is very limited, <u>but it cannot be ruled out</u>.

- o Statements should make clear that to date there is no evidence to suggest that all persons with antibodies will not at sometime develop AIDS.

- o Statements should include the fact that there is at least a 10% failure rate of condoms on preventing conception.

- o Statements should recommend that sex education programs in school should present moral and ethical arguments for avoiding homosexuality and sexual promiscuity.

II. Other recommended actions:

- o States should be encouraged to adopt laws to:

  -- require that the blood testing required before a couple may be married include a negative test result from a test for AIDS, or a test to determine if an individual is a carrier of the virus;

  -- require that tracing of individuals with venereal disease include individuals with AIDS and those determined to be carriers of the virus;

  -- encourage designated hospitals to offer blood transfusions which are made directly between the blood donor and the person receiving the transfusion;

-- require individuals seeking a license to practice medicine, nursing or any other health care profession to have a negative result from a test for AIDS or a test to determine if the individual is a carrier of the virus;

-- outlaw sodomy. (Twenty-four states in the U.S. now have such a law on their books.)

-- States should be urged to make it a felony for a person in a high risk category to donate blood.

III. The Federal Government should take the following actions:

o Congress should by resolution express its sense that children with AIDS be educated outside the public classroom and be provided alternative forms of education.

o Insurance companies should be permitted to treat AIDS like any other high risk disease.

o The FDA should be encouraged to expedite the approval of promising drugs for the treating of AIDS patients.

o A Federal order should be issued closing down all known homosexual bathhouses.

o There should be a Federal ban on all high-risk group members from:

-- donating blood or plasma;
-- contributing semen to sperm banks;
-- donating organs.

o The present AIDS blood screening test still permits a certain percentage of those infected with AIDS to slip through the safety net and endanger people's lives. All prospective donors of any of these protected substances should be required to sign a statement under oath that they are not members of a high-risk group. Mandatory high federal penalties would be imposed on violators.

o Hospital officials must allow medical personnel to take proper precautions when dealing with AIDS patients. Proper precautions must be taken to protect non-AIDS patients from those with AIDS.

o All persons diagnosed with full-blown AIDS, pre-AIDS (ARC) and those testing positive with the AIDS blood screening test, should be registered by the Federal Government.

- Pre-AIDS or ARC patients must be reported. Persons who are shown to be asymptomatically infected must be reported. If any practical efforts are to be made to halt the spread of AIDS infection, it is essential to find out who is infected and take practical steps to prevent these persons from infecting others.

- Federal authorization should be given for public and private employers to utilize AIDS risk factor questionnaires and AIDS blood screening tests in hiring.

- Some States and municipalities have laws prohibiting the questioning of a prospective employee regarding his sexual behavior or orientation. These must be overridden in the interests of public safety.

IV. Executive Action

- Empower and support the Surgeon General to take practical measures to halt the spread of AIDS.

  There is federal legislation on the books right now which could significantly hinder the unrestricted spread of AIDS contagion by those knowingly spreading the disease. The Federal Code states:

> 264. Control of communicable diseases
> (a) The Surgeon General, with the approval of the Administrator [Secretary], is authorized to make and enforce such regulations as in his judgment are necessary to prevent the introduction, transmission, or spread of communicable diseases from foreign countries into the States or possessions, or from one State or possession into any other State or possession....
>
> (d) On recommendation of the National Advisory Health Council, regulations prescribed under this section may provide for the apprehension and examination of any individual reasonably believed to be infected with a communicable disease in a communicable stage and (1) to be moving or about to move from a State to another State; or (2) to be a probable source of infection to individuals who, while infected with such disease in a communicable stage, will be moving from a State to another State. Such regulations may provide that if upon examination any such individual is found to be infected, he may be detained for such time and in such manner as may be reasonable and necessary. United States Code Service, 42USCS, The Public Health and Welfare.

DRAFT

- An Executive Order should be developed to allow the Surgeon General to put the above provisions in effect to restrain those who would intentionally put others in danger of acquiring AIDS.

- The Surgeon General should be authorized by the Executive Order to employ whatever measures are deemed appropriate for prohibiting the spread of AIDS as stated in the Federal Code.

V. Sex Education

- Sex education in the public schools should include instruction in sound healthful principles of sexual interaction.

  A concerted effort must be made to prevent the AIDS epidemic from gaining a foothold in the nation's elementary, junior high and secondary schools.

  Sex education as it is being taught in the public schools is in direct contradiction to practical guidelines to prevent AIDS. Young people are being instructed in pansexuality, the concept that all forms of sexual expression -- heterosexual, bisexual, homosexual, etc. -- are all equally positive, healthy types of behavior.

  Sex education classes are propagating the same type of behavior which has fostered the AIDS/VD epidemics. Teenagers and children need to be instructed to refrain from sexual intercourse outside of marriage. They must be taught the grievous medical, personal and social consequences of heterosexual promiscuity.

Homosexuality per se must be taught as an unhealthy, unsafe and lethal sexual alternative. Individuals who declare a same-sex preference should understand that there's a serious chance of infection that can truly be a matter of life and death.

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POLICY ISSUES FOR RESOLUTION

1. Should the most common cause of AIDS (namely irresponsible behavior), be candidly addressed and warned against? With respect to sexual behavior, should the primary message be: "Avoid promiscuous sex," or "Use condoms"?

2. Should AIDS contacts be traced? (Note JAMA editorial endorsing contact tracing, October 18, 1985.)

3. Should assurances about the safety of condoms be modified? Given their 10 percent failure rate for contraception, can they ensure "safe sex?" (In anal sex, there is more friction and pressure.) Are they a panacea? What effect will the aggressive promotion of condoms have on impressionable young people?

4. Should the blood supply be better protected by making it illegal for at-risk persons to donate blood? Should the public be advised that absolute safety of the blood supply cannot be guaranteed (because the virus may appear before the HIV antibodies appear, and because the test is not 100 percent sensitive for detecting antibodies)?

5. Should the blanket assurance that "AIDS cannot be transmitted casually" be modified? Cases on record (see Attachment) implicate means of transmission other than sexual contact, contaminated needles, infected mother-baby, or blood tranfusion. Such cases include exchanging saliva (in kissing), biting, mosquitoes in the tropics, exposure to bloody fecal matter, etc.

6. Should the AIDS antibody test be made more widely available? Should it be required in some cases? (Note that New York City's VD clinics reportedly have not even offered the test.)

7. Should cases of AIDS be reported to public health officials?

8. Should testing be more widespread? (Note Army AIDS researcher Major Robert Redfield: "The policy of not testing and not telling, [Redfield] believes, 'is threatening the health of the whole community. And ultimately it's going to threaten [gays'] freedom.

They don't understand it, but a lot of people are going to be angry when they learn that the public health authorities of our country have been paralyzed because of this concern about confidentiality. . .'" (Washington Post, December 27, 1986.)

9. Should laws be considered to:

   - Make it a crime for persons who know that they carry the AIDS virus to transmit bodily fluids to another?

   - Require individuals who know they carry the AIDS virus to disclose this information to prospective sexual partners before engaging in sex, regardless of the protection (i.e., condoms) used during sex?

10. Under what circumstances should quarantine be used?

Attachment

Attachment

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DOCUMENTATION OF CASES OF AIDS, IMPLICATING MEANS OF TRANSMISSION OTHER THAN SEXUAL CONTACT, USE OF CONTAMINATED NEEDLES, INFECTED MOTHER TO INFANT, OR TRANSFUSION OF CONTAMINATED BLOOD OR BLOOD PRODUCTS

o A man transmitted the AIDS virus to his wife, apparently through saliva. The man had contracted AIDS following a blood tranfusion for an operation that also left him impotent. The couple did not engage in sexual intercourse at any time after the transfusion, but they exchanged saliva when kissing. (The Lancet, December 22/29, 1984.)

o An eight year-old brother of a five year-old AIDS victim (who died) tested positive for the AIDS antibody. The mother reported seeing teeth marks on the older boy but no bleeding, about six months before the younger boy died. (The Lancet, September 20, 1986.)

o Dr. Mark Whiteside at the Institute for Tropical Medicine (in Miami) believes that patterns of AIDS suggest that in the tropics, AIDS is not primarily a sexual, but an environmental disease. "AIDS is an environmental (probably insect-transmitted) disease in the tropics with secondary transmission by other blood mechanisms," he notes. Belle Glade, Florida, with the highest rate of AIDS in the U.S., fits the tropical pattern, according to Dr. Whiteside. Half the cases in Belle Glade (and 60-70 percent in a poor section) do not have identifiable risk factors. (Interview, December 22, 1986; Abstract on Case-Control Study of the Acquired Immunodeficiency Syndrome (AIDS) in Belle Glade, Florida; letter of August 4, 1986, to Kenneth Robin; letter of May 20, 1986, to Dr. Kenneth Castro.)

o The pattern of AIDS in Africa appears to implicate insect transmission, according to Dr. Whiteside. From 15 to 22 percent of the AIDS cases in Africa involve children. (Whiteside cites Dr. Nathan Clumeck, "Overview of the AIDS Epidemic and its African Connection," paper presented to the International Symposium on African AIDS, Brussels, Belgium, November 22-23, 1985.)

o A child aparently transmitted AIDS to his mother, who was exposed to the child's bloody fecal material without wearing gloves. (Institute of Medicine, Confronting AIDS, 1986, p. 56).

o Six percent of cases involving children and about six percent of adults wth AIDS do not fall into any of the known risk groups. (*JAMA*, November 22/29, 1985.) In tropical areas, the percentage is higher. Twenty-two percent of cases in Florida, thirty percent of cases in Miami, fifty percent of cases in Belle Glade, and sixty to seventy percent in a poor neighborhood of Belle Glade do not have identifiable high risk factors. (See citations for Whiteside, above.)

o The Public Health Service advises health care and lab workers to wear protective clothing if their jobs expose them to AIDS patients' blood, secretions, wastes, etc. For example, eye care practitioners are advised to wear gloves and wash hands to avoid possible exposure to the AIDS virus through an infected person's tears. (See, e.g., the PHS booklet, "Be Informed about AIDS: Information for Health-Care Providers," 1986 edition.) If health care workers risk exposure by contact with tears, etc., presumably persons in the public who have such contact are also at risk.

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Nevertheless, the Surgeon General believes that his report did contain four relatively neutral statements about prevention, which had moral implications as well as 13 statements that had moral content.

The preventive statements follow:

- o This report focuses on prevention that could be applied in all countries.
- o Fear can be useful when it helps people avoid behavior that puts them at risk for AIDS.
- o If you are participating in activities that could expose you to the AIDS virus, this report could save your life.
- o The threat of AIDS should be sufficient to permit a sex education curriculum with a heavy emphasis on prevention of AIDS and other sexually transmitted diseases.

The statements with a moral tone include:

- o I am opposed to the use of elicit drugs.
- o Many Americans are opposed to homosexuality, promiscuity of any kind, and prostitution. This report must deal with all of these issues but does so with the intent that information and education can change

individual behavior.

- Adolescents and pre-adolescents are those whose behavior we wish to especially influence because of their vulnerability when they are exploring their own sexuality (heterosexual and homosexual) and perhaps experimenting with drugs.

- The threat of AIDS can provide an opportunity for parents to instill in their children their own moral and ethical standards.

- AIDS is preventable. It can be controlled by changes in personal behavior.

- The risk of infection increases according to the number of sexual partners one has, male or female. The more partners you have, the greater risk of becoming infected with the AIDS virus.

- Couples who maintain mutually faithful monogamous relationships (only one continuing sexual partner) are protected from AIDS through sexual transmission.

- (The term faithful is repeated four times following this paragraph).

- Absolute certainty means not only that you and your partner have maintained a mutually faithful monogamous sexual relationship, but it means that neither you nor your partner has used illegal intravenous drugs.

- (Regarding teenaged girls) By saying NO to sex and drugs, they can avoid AIDS which can kill them! The same is true for teenage boys who should also not have rectal intercourse with other males. It may result in AIDS.

- Do not have sex with prostitutes.

- No one should shoot up drugs because of the addiction, poor health, family disruption, emotional disturbances and death that follows.

- No American's life is in danger if he/she or their sexual partners are not engaged in high-risk sexual behavior or use shared needles or syringes to inject illicit drugs into the body.

- The most certain way to avoid getting AIDS, getting the AIDS virus, and to control the AIDS epidemic in the United States is for individuals to avoid promiscuous sexual practices, to maintain mutually faithful monogamous sexual relationships and to avoid injecting illicit drugs.

DRAFT

Materials to Assist in Developing
Statements and Policies on AIDS

1. Straight Talk to America's Youth on AIDS from the Surgeon General.

2. Basis for "Straight Talk" (above): Statements on Moral Issues in the Surgeon General's Report on Acquired Immune Deficiency Syndrome

3. Policy Issues about AIDS (for resolution).

4. Principles for AIDS prevention and control. (Points for information, education, and public health policies.)

SOME PRINCIPLES FOR AIDS PREVENTION AND CONTROL

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Education and Information

o Point out that the major cause of AIDS is irresponsible behavior. (Over 90 percent of AIDS cases in this country are directly caused by promiscuous sex or by using contaminated needles; ,most of the remaining cases result directly from someone's irresponsible behavior.)

o State that promiscuous sex is dangerous to one's health.

o Urge that sex be heterosexual and monogamous (within marriage).

o Stress the importance of conscience, morality, honesty, and ethics in sexual behavior.

o Make sex education for children sensible. It should be age-appropriate, should include parental involvement, should not be value-free, should teach that children shouldn't have sex, etc.

o Continue to strongly advise against illicit use of drugs.

o "Just Say No" to drugs and promiscuous (non-monogamous, non-marriage) sex.

o While avoiding irrational panic, guard against a false sense of security, too.

o Recognize the possiblity that the AIDS virus may be transmitted by means other than the four major methods (intimate sexual contact, sharing infected hypodermic needles, infected mother to baby, transfusions of infected blood). The statement that "AIDS cannot be tranmitted casually" may need modification.

o Don't make condoms a panacea. There is no way they can make promiscuous sex totally safe. (Condoms have a 10% failure rate when used for contraception, and would likely fail more often during rectal intercourse.) Aggressive promotionof condoms may also have undesirable side effects.

o Clearly recognize the potential for transmission by those who appear healthy, if they carry the AIDS virus. Many healthy looking AIDS carriers do not know they are carriers because they have not been tested or because the test is not 100 percent accurate.

o Advocate testing for at-risk individuals, and counseling for those found to carry the virus, to prevent infection of still more individuals.

o Note how widespread AIDS is, particularly in the homosexual community. 40-60 percent homosexual men in San Francisco are infected (JAMA, October 18, 1985). In Manhattan, one in 50 potential military recruits tests positive for AIDS antibodies, 3.7 per thousand in Maryland, and 15 per thousand nationwide. (The Washington Post, December 27, 1986.)

o Individuals who refuse to curtail promiscuous sexual activity or drug use, should have frequent testing, followed by counseling if the test reveals the presense of AIDS antibodies.

Public Health Measures

o Encourage public health measures that are used for other veneral diseases be used for AIDS, including tracing of contacts.

o Trace contacts.

o To make the blood supply safer, forbid persons in high risk categories from donating blood. Such a prohibition, given the fact that the current antibodies test is not 100 percent perfect, will improve the public's confidence in the blood supply will be hurt.

o Point out that AIDS victims are vulnerable to other opportunistic diseases, some of which are higly contagious to others in the environment (e.g., pneumonia, TB). Thus, the risk of an AIDS patient to others is not limited to AIDS alone.

o Encourage the closing of bathhouses used for sexual liaisons.

o Enourage states to require applicants for marriage licenses to take blood tests for AIDS (just as they already do for other veneral diseases).

o Treat AIDS like other veneral diseases. (Note: Dr. Steven Joseph, the NYC health commissioner, says, "AIDS is not a veneral disease. AIDS is an infectious disease which can be transmitted sexually." The New Republic, November 24, 1986.)

o Make the AIDS antibody test more available. For example, test all persons with sexually transmitted diseases for AIDS. (Note: The VD clinics in NYC reportedly don't even offer the AIDS test. The New Republic, November 24, 1986.)

o Prohibit AIDS Patients (and those who test positive for antibodies) from direct health care, as appropriate. (E.g., a person with AIDS should not perform surgery).

o Advise that AIDS has been found in many bodily fluids, and that anyone who cares for or lives in close contact with a known AIDS carrier should take precautions when handling bodily fluids, especially avoiding contact between the AIDS carrier's bodily fluid and any cuts or abrasions. Advise these individuals to obtain additional guidance developed for health care workers who treat AIDS patients.

o Urge local school officials to inform teachers and other adults supervising a child with AIDS of the child's condition, and advise them to follow the same procedures used by health care workers who treat AIDS patients.

o Carefully review evidence (from, e.g., Dr. Mark Whiteside of the Institute of Tropical Medicine) of transmission by insects in the tropics. If the evidence warrants, take appropriate public health measures (to control mosquitoes, etc.).

Legislation

o Urge state and local officials to take legal action to prevent donation of blood by individuals who have engaged in at-risk behavior during a specified interval of time prior to the donation.

o Consider laws be to make it a crime for persons who know that they carry the AIDS virus to transmit bodily fluids to another.

o Consider laws to require individuals who know they carry the AIDS virus to disclose this information to prospective sexual partners before engaging in sex, regardless of the protection (i.e. condoms) used during sex.

Statements on Moral Issues in the Surgeon General's Report
on Acquired Immune Deficiency Syndrome
(In the order in which they appear in the report)

I am opposed to the use of illegal drugs (p. 4).

Adolescents and pre-adolescents are those whose behavior we wish to especially influence because of their vulnerability when they are exploring their own secuality (heterosexual and homosexual) and perhaps experimenting with drugs. Teenagers often consider themselves immortal, and these young people may be putting themselves at great risk (p. 4).

Many Americans are opposed to homosexuality, promiscuity of any kind, and prostitution (p. 5).

The threat of AIDS can provide an opportunity for parents to instill in their children their own moral and ethical standards (p. 5).

AIDS is preventable. It can be controlled by changes in personal behavior. It is the responsibility of every citizen to exercise the appropriate preventative measures (p. 6).

Control of certain behaviors can stop further spread of AIDS (p. 14).

The risk of infection increases according to the number of sexual partners one has, male or female. The more partners you have, the greater the risk of becoming infected with the AIDS virus (p. 15).

Couples who maintain mutually faithful monogamous relationships (only one continuing sexual partner) are protected from AIDS through sexual transmission. If you have been faithful for at least five years and your partner has been faithful too, neither of you is at risk. If you have ot been faithful, then you and your partner are at risk. If your partner has not been faithful, then your partner is at risk which also puts you at risk (p. 16).

Absolute certainty means not only that you and your partner have maintained a mutually faithful monogamous sexual relationship, but it means that neither you nor your partner has used illegal intravenous drugs (p. 16).

Single teenage girls have been warned that pregnancy and contracting sexually transmitted diseases can be the result of only one act of sexual intercourse. they have been taught to san NO to sex. They have been taught to say NO to drugs. By saying NO to sex and drugs, they can avoid AIDS which can kill them. The same is true for teenage boys who should also not have rectal intercourse with other males. It may result in AIDS (p. 18).

Do not have sex with prostitutes (p. 18).

No one should shoot up drugs because addiction, poor health, family disruption, emotional disturbances, and death could follow (p. 19).

No American's life is in danger if he/she or their sexual partners do not engage in high risk sexual behavior or use shared needles or syringes to inject illicit drugs into the body (p. 27).

The most certain way to avoid getting the AIDS virus and to control the AIDS epidemic in the United Staes is for individuals to avoid promiscuous secual practices, ot maintain mutually faithful monogamous sexual relationships and to avoid injecting illicit drugs (p. 27).

DRAFT

STRAIGHT TALK TO AMERICA'S YOUTH ON AIDS
FROM THE SURGEON GENERAL

(Below are some points that might included in some friendly advice to teenagers from a physician with many years of experience with young people.)

(NOTE: These statements are based on messages in the Surgeon General's Report on AIDS.)

o Sex is a rewarding and satisfying human activity, to be undertaken only when you have made a life-time commitment to your prospective spouse. To reap its benefits and avoid its pitfalls -- both emotional and physical -- both of you should reach a mutual agreement on this commitment.

> [This point is inspired by The Surgeon General's Report on Acquired Immune Deficiency Syndrome, p. 5, which observes that "The threat of AIDS can provide an opportunity for parents to instill in their children their own moral and ethical standards."]

o Sex is an activity that should always be governed by the highest priciples of conscience, ethics and honesty. To do otherwise leaves you at greater risk of injuring yourself and your loved ones -- even to the point of contracting and transmitting a deadly disease.

> [This is inspired by the statement quoted above, from the Surgeon General's Report.]

o To be certain that you will be safe from AIDS, you must avoid both promiscuous sexual practices (your best bet is a faithful monogamous relationship) and illicit intraveneous drugs and needle sharing.

> [Taken from the Surgeon General's Report, p. 27, which states: "The most certain way to avoid getting the AIDS virus and to control the AIDS epidemic in the United States is for individuals to avoid promiscuous sexual practices, or maintain mutually faithful monogamous sexual relationships and to avoid injecting illicit drugs," and p. 14, "People must be responsible about their sexual behavior and must avoid the use of illicit intravenous drugs and needle sharing."]

o If you are tempted to engage in a homosexual relationship, think about it carefully. Seek counseling. Talk to your parents, a clergyman or other adult whom you trust. Many Americans are opposed to homosexuality, and they usually have very good reasons. You should carefully consider the consequences of such actions before you act.

> [Suggested by the Surgeon General's Report, p. 5: "Many Americans are opposed to homosexuality ...."]

o If you are tempted to engage in promiscuity of any kind, or if you think it "manly" to have a fling with a prostitute, first talk to a parent, a clergyman or other adult whom you respect and trust.

> [Suggested by the Surgeon General's Report, p. 5: "Many Americans are opposed to ... promiscuity of any kind, and prostitution," and its mandate, "Do not have sex with prostitutes" (p. 18).]

o You can help prevent and control AIDS by avoiding certain personal behavior, or stopping it if you already started. This is your responsibility to yourself and your family, as well as your responsibility as a citizen.

> [Inspired by the statement in the Surgeon General's Report, p. 6., "AIDS is preventable. It can be controlled by changes in personal behavior. It is the responsibility of every citizen..." Also, p. 14, "Control of certain behaviors can stop further spread of AIDS..." "People must be responsible..."]

o Every teenage boy or girl should know that pregnancy and contracting AIDS and other sexually transmitted diseases can be the result of just one act of sexual intercourse. The safest and smartest thing you can do is to say NO to sex. If you are a teenage boy, never, never consider giving in to another male who wants to have rectal intercourse with you. Any young girl or young boy who has intercourse with an AIDS carrier can contract this incurable disease. (And remember, most carriers of the AIDS virus don't even know they have it.) To be blunt, just one impulsive act of intimacy with such an AIDS carrier can kill you.

> [Adapted from the Surgeon General's Report, p. 18, which states: "Single teenage girls have been warned that pregnancy and contracting sexually transmitted diseases can be the result of only one act of sexual intercourse. They have been taught to say NO to sex. They have been taught to say NO to drugs. By saying NO to sex and drugs, they can avoid AIDS which can kill them. The same is true for teenage boys who should also not have rectal intercourse with other males. It may result in AIDS."]

o You must learn to say NO to illicit drugs. By saying NO to sex and drugs, you will be safe from AIDS and from many other problems as well.

> [Taken from the same statement quoted immediately above.]

o Promiscuity is dangerous to your health. The risk of infection increases according to the number of sexual partners one has, male or female. The more partners you have, the greater the risk of becoming infected with the AIDS virus.

> [From the Surgeon General's Report, p. 15, which states: "The risk of infection increases according to the number of sexual partners one has, male or female. The more partners you have, the greater the risk of becoming infected with the AIDS virus."]

o The use of illicit drugs is very dangerous. I oppose all such use. No one should shoot up drugs because addiction, poor health, family disruption, emotional disturbances, and death could follow.

> [From the Report, at pp. 4 and 19: "I am opposed to the use of illegal drugs" (p. 4). "No one should shoot up drugs because addiction, poor health, family disruption, emotional disturbances, and death could follow" (p. 19).

o If you are planning marriage, protect your health and the health of your future spouse and children by avoiding those actions now that could infect you with AIDS. When and if you marry, there is no danger of AIDS

through sexual contact with your spouse, so long as you and your spouse don't already have the AIDS virus, and you maintain a mutually faithful monogamous relationship, and neither of you engages in risky behavior. That means always avoiding extramarital relationships, including homosexual relationships, and sexual liaisons with a prostitute. It means always avoiding use of illicit drugs, because AIDS is often spread through sharing of intravenous drug needles and syringes.

> [Taken from the Surgeon General's Report, p. 16: "Couples who maintain mutually faithful monogamous relationships (only one continuing sexual partner) are protected from AIDS through sexual transmission. If you have been faithful for at least five years and your partner has been faithful too, neither of you is at risk. If you have not been faithful, then you and your partner are at risk. If your partner has not been faithful, then your partner is at risk which also puts you at risk." Also based on p. 16: "Absolute certainty means not only that you and your partner have maintained a mutually faithful monogamous sexual relationship, but it means that neither you nor your partner has used illegal intravenous drugs."]

o The risk of AIDS to your life is enormously reduced if you avoid high risk sexual behavior, if you avoid injecting illicit drugs into your body, if you never share needles or syringes. If you have started these practices, you must stop them. Seek help.

> [Inspired by the Report, p. 27, "No American's life is in danger...."]

o Do not be overconfident; do not assume that you will escape the pitfalls. If you engage in irresponsible behavior, you're risking your life; it's that simple. Although protective measures can reduce the risk for indulging in irresponsible behavior, they can't eliminate the risk. For example, if you are promiscuous, you should at least use a condom. But you are still at risk, because condoms can fail. When used for contraception -- to avoid pregnancy -- the failure rate of condoms is about 10%. Just as condoms are no guarantee against girls becoming pregnant, they do not always insulate you from AIDS or other sexually transmitted diseases, if you engage in irresponsible behavior.

> [Inspired by the Surgeon General's Report, p. 4, which notes "Teenagers often consider themselves immortal, and these young people may be putting themselves at great risk."]

o Do not do anything that would expose you to bodily fluids (semen, blood, vomit, stool, urine, saliva, tears, mucous, etc.) of a person carrying the AIDS virus. If you live in close contact with such a person, or if you have responsibility for the care of such a person, consult public health authorities about additional precautions that you should take while caring for that individual.

> [This paragraph grew out of a concern that young people, who are often naive and who often believe they are invulnerable, may not generalize, and may conclude, for example, that promiscuous "french kissing" is no hazard, because it was not specifically mentioned; or that rectal intercourse is no danger to girls, because an admonition against it was addressed only to boys.]

DRAFT

DOCUMENTATION OF CASES OF AIDS,
IMPLICATING MEANS OF TRANSMISSION OTHER THAN SEXUAL CONTACT, USE OF CONTAMINATED NEEDLES, INFECTED MOTHER TO INFANT, OR TRANSFUSION OF CONTAMINATED BLOOD OR BLOOD PRODUCTS

o A man transmitted the AIDS virus to his wife, apparently through saliva. The man had contracted AIDS following a blood tranfusion for an operation that also left him impotent. The couple did not engage in sexual intercourse at any time after the transfusion, but they exchanged saliva when kissing. (The Lancet, December 22/29, 1984.)

o An eight year-old brother of a five year-old AIDS victim (who died) tested positive for the AIDS antibody. The mother reported seeing teeth marks on the older boy but no bleeding, about six months before the younger boy died. (The Lancet, September 20, 1986.)

o Dr. Mark Whiteside at the Institute for Tropical Medicine (in Miami) believes that patterns of AIDS suggest that in the tropics, AIDS is not primarily a sexual, but an environmental disease. "AIDS is an environmental (probably insect-transmitted) disease in the tropics with secondary transmission by other blood mechanisms," he notes. Belle Glade, Florida, with the highest rate of AIDS in the U.S., fits the tropical pattern, according to Dr. Whiteside. Half the cases in Belle Glade (and 60-70 percent in a poor section) do not have identifiable risk factors. (Interview, December 22, 1986; Abstract on Case-Control Study of the Acquired Immunodeficiency Syndrome (AIDS) in Belle Glade, Florida; letter of August 4, 1986, to Kenneth Robin; letter of May 20, 1986, to Dr. Kenneth Castro.)

o The pattern of AIDS in Africa appears to implicate insect transmission, according to Dr. Whiteside. From 15 to 22 percent of the AIDS cases in Africa involve children. (Whiteside cites Dr. Nathan Clumeck, "Overview of the AIDS Epidemic and its African Connection," paper presented to the International Symposium on African AIDS, Brussels, Belgium, November 22-23, 1985.)

o A child aparently transmitted AIDS to his mother, who was exposed to the child's bloody fecal material without wearing gloves. (Institute of Medicine, Confronting AIDS, 1986, p. 56).

o Six percent of cases involving children and about six percent of adults wth AIDS do not fall into any of the known risk groups. (JAMA, November 22/29, 1985.) In tropical areas, the percentage is higher. Twenty-two percent of cases in Florida, thirty percent of cases in Miami, fifty percent of cases in Belle Glade, and sixty to seventy percent in a poor neighborhood of Belle Glade do not have identifiable high risk factors. (See citations for Whiteside, above.)

o The Public Health Service advises health care and lab workers to wear protective clothing if their jobs expose them to AIDS patients' blood, secretions, wastes, etc. For example, eye care practitioners are advised to wear gloves and wash hands to avoid possible exposure to the AIDS virus through an infected person's tears. (See, e.g., the PHS booklet, "Be Informed about AIDS: Information for Health-Care Providers," 1986 edition.) If health care workers risk exposure by contact with tears, etc., presumably persons in the public who have such contact are also at risk.

associated with lymphoproliferative disorders rather than neutropenia or malignancy per se.

3 patients with a leukaemia or a lymphoma did not show a group B response; 2 of these produced no detectable antibody and the other a group D response. This latter patient came from the RM, the source of 6 of the patients with group B responses. A striking feature of group B was the marked IgM response to a wide range of antigens in patients who recovered. The teratoma patient, who also survived, made a purely IgM response (group F).

The presence of a large group of antigens of variable immunogenicity may explain the negative findings which may be obtained with antibody tests based on a small group of antigens.[14] There has been a tendency to explain these negative findings solely in terms of the inability of some patients to produce antibody.[15] However, in our series only 5 of the 45 patients did not produce detectable antibody, despite a mortality of 75%. All these 5 patients died within 3 days of clinical onset of disease. Only 2 of them had lymphoproliferative disorders, which might have accounted for their failure to produce antibody. Perhaps in a few patients antibody is not detectable because it is swamped by an excess of candidal antigens or does not have time to develop.

Of the 12 survivors in this series, 7 had antibodies to the 47 kD band 15, producing first an IgM, then a substantial amount of (>70 mm) IgG (table I). In 4 other survivors this antigen induced a major (>40 mm) IgM response, without IgG; 3 of these patients had lymphoproliferative disorders and 1 a teratoma. 1 survivor from group B had a low antibody titre to the antigen, perhaps because the only serum available had been taken 3 months after the disease. The remaining 33 fatal cases produced little, no, or fading antibody responses to the 47 kD band 15. Therefore this antigen would not be reliable as the basis of a diagnostic antibody test.

In patients who died from candidosis, the antibodies produced to all candidal antigens were minor or faded terminally, as illustrated in fig 3, table III. In patients who recovered, the response to band 15 was accompanied by rising antibody titres to most of the other candidal antigens, as shown in fig 2, table II. However, only antibody to band 15 was consistently present in the survivors from all six groups.

Our findings have two implications. If antibody to 47 kD antigen is protective then hyperimmune serum containing this antibody might be a useful adjunct in the treatment of systemic candidosis. The use of this antigen as the basis of a vaccine might also be considered. The situation may be analogous to that occurring in rabbits where candidal antibodies induced by immunisation seem to protect against the development of candidal endocarditis.[16] The second implication is that immunological tests designed to detect antibody to the 47 kD antigen may be of prognostic value, since all survivors consistently produced 47 kD antibody.

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HTLV-III IN SYMPTOM-FREE SERONEGATIVE PERSONS

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Summary Of 96 patients with acquired immunodeficiency syndrome (AIDS) or AIDS-related complex and healthy individuals at risk for AIDS, 4 had no detectable antibodies to viral proteins, though human T-cell leukaemia (lymphotropic) virus type III was isolated from their lymphocytes. 3 of these subjects were symptom-free and 1 had lymphadenopathy. All 4 were sexual partners of patients with AIDS or AIDS-related complex. The occurrence of seronegative but virus-positive persons without clinical symptoms suggests that assays other than those detecting antibody to virus, perhaps based on detection of viral antigens or immune complexes, may be required to identify all infected individuals.

Introduction

ACCUMULATING evidence implicates human T-cell leukaemia (lymphotropic) virus type III (HTLV-III)[1-5] or lymphadenopathy-associated virus[6] in the development of acquired immunodeficiency syndrome (AIDS) and AIDS-

R. C. MATTHEWS AND OTHERS: REFERENCES—*continued*

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related complex. Seroepidemiological studies show that more than 90% of these patients have been exposed to virus or viral antigens.[1-3] HTLV-III has been isolated from peripheral blood cells from 96 patients with AIDS (50% of those tested) or AIDS-related complex (85% of those tested) and healthy donors at risk for AIDS (20% of those tested)[4,5] (and Salahuddin SZ et al, unpublished). The course of virus expression and antibody response from the time of infection through the incubation period and during different stages of clinical disease has not yet been clearly established. However, the serum level of antibody to HTLV-III is high in most patients by the time clinical symptoms are recognised, and these antibody titres are sometimes reduced to low, barely detectable, levels in advanced stages of disease.[1-3] Furthermore, antibody to HTLV-III is found in the serum of many clinically normal individuals at risk for AIDS.[1-3]

Major efforts are now in progress to develop and implement screening procedures for use by blood banks and other organisations which need to identify HTLV-III-infected individuals. Since the procedure used to identify possible virus carriers is based on the detection of serum antibodies to viral proteins, it is important to know whether an individual could harbour infectious virus without mounting a detectable immune response. Here we report the identification of 4 virus-positive individuals who are seronegative for antibodies to HTLV-III proteins.

Methods

Serum samples were collected under sterile conditions and stored at −70°C until testing. Samples were assayed for the presence of antibody to HTLV-III structural proteins by indirect membrane immunofluorescence, enzyme-linked immunosorbent assay (ELISA), and Western blot procedures as previously described.[1-3,7,8] Samples reacting with viral antigens by any of these tests were considered positive. Samples positive by Western blot analysis but negative in other assays were also considered positive. Samples deisgnated as negative did not react with viral antigens by any of the tests described.

The procedures used to induce the expression of virus in cultured patient lymphocytes and to transmit it to fresh mononuclear cells from normal donors have been described elsewhere.[4,5] Release of virus into supernatant fluids (detected as viral reverse transcriptase activity), its transmission to fresh normal peripheral blood, cord blood, or bone-marrow mononuclear cells (with subsequent production of virus), and the detection of HTLV-III antigens in infected cells by specific immunological reagents,[1-3] were the criteria used to specify a new virus isolate.[4,5]

Results

During the course of studies to identify people with previous exposure to HTLV-III, 96 individuals were found to harbour infectious virus in blood cells or body fluids (eg, saliva, semen, and plasma). However, 4 of these individuals had no detectable serum antibodies to HTLV-III by any of the assays used.

Partner 1, a 40-year-old homosexual man, was the regular sexual partner of patient 1, in whom AIDS had been diagnosed 11 months earlier. Patient 1 presented with *Pneumocystis carinii* pneumonia and had the laboratory characteristics of AIDS, including leucopenia, lymphopenia, and low levels of lymphocytes with a helper/inducer phenotype (OKT4). Antibody to HTLV-III was detected in this patient's serum and infectious virus was isolated from his peripheral blood mononuclear cells. The characteristic HTLV-III protein with molecular weight 41 000 was detected in serum from this patient by the Western blot procedure. Patient 1 died of recurrent *P carinii* pneumonia. His symptom-free sexual partner was completely normal on physical examination and laboratory evaluation, including normal lymphocyte number, T-cell subsets, and skin-test reactivity to the recall antigens of mumps, candida, and tetanus. Partner 1 had no evidence of antibody to HTLV-III. However, infectious virus was isolated from both his peripheral blood lymphocytes and his saliva.

Partner 2 was a 30-year-old homosexual man with cervical and axillary lymphadenopathy but no history of opportunistic infections or neoplasia. His regular sexual partner (patient 2) had AIDS, manifested as Kaposi's sarcoma, diagnosed 1 year before this study. Both serum antibody and infectious virus were detected in patient 2. Extensive laboratory evaluation of partner 2, including lymph-node biopsy and tissue culture, did not reveal an infectious, autoimmune, or neoplastic cause for his lymphadenopathy. He had normal levels of lymphocytes and T-cell subsets and normal skin-test reactivity to recall antigens. Antibody to HTLV-III was not detected in his serum, but virus was recovered from his peripheral blood cells.

Partner 3 was a 61-year-old caucasian woman with none of the commonly recognised risk factors for AIDS. Her husband, patient 3, had transfusion-associated AIDS manifest as unexplained fevers, weight loss, lymphadenopathy, and invasive oesophageal candidiasis. He had received 30 units of blood products during abdominal aortic surgery 3 years previously. He had leucopenia, lymphopenia, decreased T4 helper lymphocytes, anergy on skin-testing to recall antigens, and polyclonal hypergammaglobulinaemia. Antibody to HTLV-III was detected in his serum and virus was recovered from his peripheral blood cells. The couple had not had sexual intercourse for 3 years, since the patient was rendered impotent by the operation that repaired his abdominal aorta, but had had exchange of saliva by kissing during that time. Partner 3 was entirely normal on physical examination and had a normal laboratory profile. Antibody to HTLV-III was not detected but her peripheral blood lymphocytes and saliva yielded infectious HTLV-III by transmission techniques.

Partner 4 was a 28-year-old hispanic woman in good health; her only recognised risk factor for AIDS was sexual contact with her husband, patient 4, a 29-year-old black man, in whom AIDS-related complex had been diagnosed 1 year before this study. His only admitted risk factor for AIDS was heterosexual promiscuity. His clinical symptoms included fatigue, weight loss, lymphadenopathy, and oral candidiasis. His total white blood cell, lymphocyte, and helper lymphocyte counts have remained within the normal range, but his T4/T8 ratio is inverted (0·37–0·48). HTLV-III was isolated from his peripheral blood cells and he was seropositive for antibodies to HTLV-III. Partner 4 was entirely normal on physical examination and laboratory evaluation, but she was found to be seronegative for antibodies to HTLV-III while virus was isolated from her peripheral blood lymphocytes.

Discussion

Despite the substantial correlation between development of AIDS or AIDS-related complex and serological evidence of previous exposure to HTLV-III, these studies indicate that a minor population of seronegative individuals can harbour infectious virus. We are at present investigating the reason for the lack of detectable levels of antibody in these virus-positive but otherwise symptom-free individuals.

The incubation period for the development of clinical AIDS from the time of exposure to virus to the onset of recognised symptoms may be quite long and may depend on route of entry and on host, environmental, or other factors affecting virus replication and expression. In cases of transfusion-associated AIDS, for example, the time from receipt of blood products to onset of clinical symptoms is estimated to be approximately 2 years,[9] while our studies suggest a much longer incubation period in some cases. The early events leading to seroconversion after exposure to HTLV-III are not known. It is possible that, during the

incubation period, HTLV-III replicates slowly within the cell population and its antigens are not exposed to the humoral immune system. Since virus was isolated from the donors studied here after in-vitro cultivation of fresh or infected lymphocytes grown in the presence of T-cell growth factor, it is possible that expansion of the infected T-cell subpopulation, which might be sparse or slowly expanding in vivo, may be favoured. Antibody to HTLV-III may develop in these individuals in the future as more virus replication occurs.

It is also conceivable that in some individuals infected with HTLV-III antibody may never develop. However, none of the patients studied here had evidence of impaired production of antibody to other viruses such as cytomegalovirus, Epstein-Barr virus, or varicella zoster, so the absence of detectable antibody to HTLV-III is unlikely to reflect a general immunological disorder. In this regard, Lane et al have reported abnormal B-cell response to stimulation with neoantigens such as keyhole limpet haemocyanin and pneumococcal polysaccharide in some pre-AIDS or AIDS patients.[10] It is possible that virus-specific antibody is produced by these individuals but is complexed with viral antigens and therefore is not detected by the procedures used.

Screening procedures based on measurement of serum antibody to HTLV-III should be sufficient to detect the majority of potentially contagious persons, since in our experience only 4 of 96 virus-positive individuals did not have detectable antibody. However, if more stringent evidence of exposure to HTLV-III is required, other assays based on detection of viral antigens or immune (antigen-antibody) complexes will be needed. A longitudinal study of cases such as those reported here should be valuable in defining both the range of antibody response to, and the clinical consequences of, HTLV-III infection in man.

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DIFFUSE AXONAL INJURY IN HEAD INJURIES CAUSED BY A FALL

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Summary 82 cases of diffuse axonal injury were found at necropsy in 635 patients with fatal non-missile head injuries. 13 of these injuries were attributable to falls, and in all the patients fell from a considerable height. Diffuse axonal injury was not found in those with head injuries caused by a simple fall—ie, a fall from not more than the person's own height—but there was a statistically significant association between the presence of diffuse axonal injury and falls from a considerable height. These results indicate that diffuse axonal injury rarely, if ever, occurs as a result of a fall unless the patient has fallen some distance.

Introduction

THE importance of diffuse axonal injury[1-4] (known previously as diffuse degeneration of white matter,[5] diffuse damage to white matter of immediate impact type,[1] shearing injury,[6,7] and diffuse white matter shearing injury[8]) in non-missile head injury is becoming increasingly recognised, and it is now clear that it is the most common structural basis of severe disability[9] and the vegetative state after head injury.[10] There has been some disagreement as to its pathogenesis but clinicopathological studies in man[3] and experimental studies in subhuman primates[11] in which angular acceleration of the head was used have demonstrated that diffuse axonal injury is caused by direct damage at the moment of injury. It also seems to be the most frequent cause of traumatic coma in the absence of an intracranial expanding lesion.[12]

Structural abnormalities in diffuse axonal injury take the form of focal lesions in the corpus callosum and in the dorsolateral quadrant or quadrants of the rostral brain-stem—these lesions are often apparent macroscopically—and histological evidence of diffuse damage to axons. It occurs most commonly in patients injured in road traffic accidents and rarely in association with a fall.[2,3] In this paper we analyse our experience of cases of diffuse axonal injury caused by a fall.

Patients and Methods

During the 15-year period, 1968–82, necropsies were performed in this Institute on 635 people with fatal non-missile head injuries. There were 497 (78%) males and 138 (22%) females aged 9 weeks to 89 years; and the duration of survival ranged from 1 hour to 14 years 3 months. Full necropsy was undertaken in every case and the brains were suspended in 10% formal saline for 3 to 4 weeks before dissection. The cerebral hemisphers were sliced in the coronal plane, the cerebellum at right angles to the folia, and the brainstem horizontally.[13] Comprehensive histological studies[2] including the examination of large celloidin sections of the brain were undertaken in 434 cases, limited histological studies were performed in 77 cases, and no histological studies in 124. Macroscopic abnormalities in the brain were recorded photographically and histological abnormalities on a series of line diagrams. All abnormalities were then recorded on a proforma and the data were stored on the University's mainframe computer.