

that contradicted the political concepts which they had about the disease. They do not want to invest money; they want to have commissions with people who don't understand anything about AIDS, and time is going by, and years are passing and already from 1982 to date we have lost more than 300 persons; the situation will go on this way until AIDS gets to an important person, some military man, some diplomat, or some member of the government.

**EIR:** What is the budget you proposed to fight AIDS in Sao Paulo?

**Dr. Veronesi:** Here in Sao Paulo, I proposed to the governor 70 billion cruzeiros (\$7 million). He said he did not have this money. On television, they asked me what I would suggest, given the lack of this budget. I answered that I suggest they sell the helicopter which the governor bought, and which cost 100 billion cruzeiros. Another suggestion was to take the trillion cruzeiros which the government earmarked to save Brazilinvest\* or the Sulbrasileiro group. With this money they would have more than enough not only for the AIDS program, but to fight tuberculosis and other diseases.

\* A financial entity of which U.S. Secretary of State George Shultz was a partner, which went bankrupt for bad management of funds. There is presently a fight in the Brazilian cabinet over whether Brazilinvest's president, a long-term associate of Henry Kissinger, should go to jail for asset-stripping of the Brazilian economy.

## AIDS in Brazil: a doctor's report

by Prof. Ricardo Veronesi

Brazil, with an estimated population of 135.5 million inhabitants in 1985, holds the second-largest number of AIDS patients in the world. The number of cases doubling every six months, led us to estimate that at the end of this year there will be 1,000 cases of AIDS in Brazil. Also, such an epidemiological picture allows us to make the pessimistic prediction that, in Brazil, millions of people will be infected with the LAV/HTLV-III viruses, during the next few years, while nobody can predict the real number of deaths due to AIDS that will occur during this period, in this country.

Medical assistance and preventive measures are lacking, or inadequate, for most of the population of the Third World. The pathogenesis of some of the most prevalent endemic diseases in such areas should be revised under this new situation where the defense mechanisms of the human host may already be damaged by this new pathogen. Furthermore, the high cost of hospitalization for victims of AIDS will add a

serious economic challenge for developing countries where millions of people are already affected by endemic and, so far, uncontrolled diseases such as schistosomiasis and other helminthic diseases, Chaga's disease, malaria, tuberculosis, leprosy, measles, malnutrition and diarrheal diseases.

All in all, we may predict a catastrophic picture for AIDS in the Third World, where, very probably, the problem will be more difficult to control than in developed countries. Under such unfavorable cultural and economic circumstances, a valid strategy to fight the AIDS challenge in developing countries would be the implementation of an AIDS control program linked to the WHO's primary health care policy.

Also, we must keep in mind that many LAV/HTLV-III viruses have been detected in Europe and the U.S.A., both in humans and animals, and, very probably, such mutant strains occur in the Third World where three-fourths of mankind lives. Finally, to develop a universal, effective vaccine, we should take into consideration these facts and make a vaccine that will be equally effective for the entire Earth's population.

### AIDS in Brazil

The first case of AIDS in Brazil was detected in a homosexual who was diagnosed in the United States, in 1982. This individual was, very probably, infected by homosexuals living in the United States. Sao Paulo city, the fifth-largest city in the world, became, after 1983, the South American AIDS capital and, since then, cases of AIDS have been exported from Brazil to Uruguay, Argentina, Chile, and Paraguay. In the State of Sao Paulo (around 30 million inhabitants in 1985) notification for AIDS became compulsory after July 1982. However, in most of the Brazilian States, AIDS notification is not compulsory yet. In **Table 1**, we present the number of cases of AIDS in Brazil and, particularly, in Sao Paulo, where almost 80% of the total number of cases were notified.

### Infection with AIDS in Brazil

Since March 1984, we have been testing blood from individuals belonging to risk groups and/or professionals under high risk to be infected by LAV/HTLV-III accidentally during their activities. Our results are shown in **Table 2** where different groups of individuals were tested either by the Western blot technique or the Enzyme-linked Immunosorbent Assay (EIA). Some of the results are confirmatory of what has been observed in other geographic areas of the world, mainly the U.S.A. and Europe. However, these are the first reports of serological LAV/HTLV-III tests in high-risk groups. Our tested population included *homosexuals* and *transvestites*, *prostitutes*, *health workers*, *haemophiliacs*, *blood donors*, *medical students* (dealing with sexually transmitted diseases), *Brazilian Navy sailors* (blood drawn in 1974) and, finally, *Brazilian Amerindians* living in the far northern Brazilian border to Venezuela.

Fifty-three percent (18 out of 23) of "healthy" homosexuals, living in Sao Paulo city (ten million inhabitants in 1985) showed positive results. These results confirm that homosexuals are the most important risk group of AIDS in the world, probably with the only exception of Zaire and other countries in Equatorial Africa. When homosexuals, bisexuals, or IV

drug addicts live confined and promiscuous (as in prisons), public health authorities should dedicate special attention to them, considering the explosive, epidemic potential of AIDS in such an environment.

*Transvestites* are no less important in the transmission of AIDS, considering they usually adopt both active and passive

TABLE 1  
Number of cases of AIDS in Brazil, particularly in the state of Sao Paulo

	Total cases 1982-85	Fatality rate (%)	No. cases 1982	Cumulative cases 1983	Cumulative cases 1984	Cumulative cases 1985***
Sao Paulo*	362	44	6	23	120	362
Brazil**	466	50-69	Unknown	Unknown	Unknown	466

\* Notification became compulsory in July 1982.

\*\* In most Brazilian states, notification is not compulsory yet.

\*\*\* Up to August 30, 1985.

TABLE 2  
AIDS in Brazil: HTLV-III antibodies detected by Western blot technique\* or EIA\*\*

Risk group or under professional risk	Total tested/ Total positive	% positive	Observations
AIDS patients	14/14	100	Full-blown AIDS
AIDS households	6/1	16	Sons: negative Wife: positive
Healthy homosexuals	34/18	53	No apparent illness when blood was drawn
Transvestites	41/16	39	No apparent illness when blood was drawn
Prostitutes	47/1	2	No apparent illness when blood was drawn
Healthy blood	30/3***	10	No apparent illness when blood was drawn
Haemophiliacs	7/3	43	
Medical students	11/0	0	Working at an S.T.D. clinic
Laboratory technicians	4/0	0	"Hospital da Clinicas," University Hospital Sao Paulo
AIDS-wards nurses	74/1	1.4	Admitted homosexual intercourse in the past
AIDS-wards cleaners	9/1	11	No risk group member; Many needleprick accidents; inadequate protection
AIDS-wards serving maids	3/0	0	
Renal dialysis patients	29/1	3.4	
Leukemia patients	7/0	0	
Brazilian Indians	44/0	0	Blood collected in August 1985. Yanomani tribe; northern border with Venezuela
Brazilian Navy	15/0	0	Stocked blood, drawn in 1974

\* Courtesy of Drs. Robert C. Gallo and M. G. Sarngadharan, National Cancer Institute, Bethesda, Md., U.S.A.

\*\* Courtesy of Drs. John L. Sever and L. Madden, National Institute Health, Bethesda, U.S.A. and Laboratory of Medical Research (LIM-54), Medical School of the University of Sao Paulo, Brazil (Prof. R. Veronesi and Cid V. Godoy).

\*\*\* Tested by Western blot technique.

sexual behavior which makes them important components of the bridge that links homosexuals to heterosexuals. Homosexuals, transvestites, and IV drug-addicts are true human-virus-grenades that explode in every sexual intercourse, and their victims may be either slightly injured, without sequelae, or deadly damaged. Thirty-nine percent (16 out of 41) of *transvestites* in Sao Paulo tested positive in the EIA test, which confirms our concern about their role in the transmission of AIDS.

Interesting enough are the results of LAV/HTLV-III antibody tests in 47 *prostitutes*: only 1 "high-standard" prostitute (out of 47) tested positive, while none of the "low-standard" prostitutes tested positive.

This phenomenon is probably due to the fact that, in Brazil, bisexual men, due to their high standard of living, seldom maintain sexual intercourse with "low-standard" prostitutes. These results, however, conflict with those reported in Zaire (Africa), where 81% of the prostitutes and 30% of their customers tested positive for the LAV/HTLV-III test.

*Health workers* are usually not infected with the LAV/HTLV-III viruses, except those accidentally infected (mainly needleprick accidents) or those who had been members of risk groups. However, we found two health workers unexpectedly positive for LAV/HTLV-III antibodies test: one, a male practical nurse, and the other, a cleaning woman on the ward, both working in the AIDS-wards in the Hospital das Clínicas, University Hospital, in Sao Paulo. Both were repeatedly positive (6 tests each) for EIA tests. Only the male health-worker admitted to having had homosexual intercourse in the recent past. The cleaning woman did not belong to any risk group, nor did her husband. Evaluation of her work conditions, and the protective measures adopted, led us to conclude that, very probably, she was contaminated through repeated needleprick accidents and/or inadequate handling of excretions and secretions of AIDS patients admitted to our ward. This result conflicts with those reported on health workers in hospitals in developed countries, where usually protective measures are provided to prevent AIDS. Clinical evaluation of this individual did not show any evidence of classical clinical AIDS or ARC, but her OKT4/OKT8 ratio was 0.67 ( $N = 1.75 \pm 0.8$ ).

Blood from haemophiliacs tested positive in 3 out of 7 (43%), and these results confirm what has been reported in other parts of the world, where the clotting factors (IX and VIII) were not submitted to pasteurization.

Three out of 30 (10%)\* healthy *blood donors* tested positive. Despite the fact that these results are not statistically significant, the potentiality of three positive blood units (by Western blot test) in a blood bank, should be definitely considered in terms of its public health meaning, mainly when we admit the fact that a single LAV/HTLV-III infected blood unit may be responsible for hundreds of cases of AIDS in a short period of time. *Blood banks* who do not carry out the

anti-LAV/HTLV—III test before blood transfusions will be legally involved in serious problems, mainly when an LAV/HTLV-III contaminated blood recipient should consider this accident as the only possible cause of an AIDS infection.

In Brazil, health officials (State and Federal) do not accept the worldwide approved usefulness of the HTLV-III test in blood banks and such an official attitude is endorsed by the Brazilian Society for Haematology and Haemotherapy, which do not recommend the EIA test, either for blood banks or for clinical diagnostic purposes. Because of such controversial attitudes, we can predict that the control of AIDS in Brazil will be very slow. Meanwhile, thousands of victims will be condemned to pay for this unrealistic attitude.

Forty-four Brazilian *Amerindians* (*Yanomani*s tribe), living in the far northern Brazilian border to Venezuela, were tested for LAV/HTLV-III antibodies (EIA) in August 1985, and all of them tested negative. These results led us to assume that the AIDS viruses did not reach this region yet and, also, no epidemiological chain similar to that described in Equatorial Africa (monkeys to humans) was found. Finally, blood tests carried out on 50 Brazilian Navy sailors (whose blood was drawn in 1974) tested negative. Very probably, the AIDS viruses reached the Brazilian territory after 1974.

## Summary

Brazil (135.5 million inhabitants) holds the world's second-largest number of cases of AIDS in the world (466 cases up to Aug. 30, 1985) and, in the State of Sao Paulo (30 million inhabitants), almost 80% of the Brazilian cases (362 cases) were notified. Notification is compulsory only in a few states and undernotification, as for other infectious diseases, is the rule all over the country. AIDS will be a tremendous challenge for the poor economy of Third World countries, and control of this new disease is predicted to be very delayed. Brazil, mainly Sao Paulo city and Rio, are the most important spreaders of LAV/HTLV-III viruses to other Brazilian states and South American countries.

Serological LAV/HTLV-III antibody tests revealed high prevalence of AIDS-infection among Brazilian homosexuals, transvestites, and haemophiliacs. Brazilian Yanomani Indians, living in the northern border area with Venezuela, did not show any serological evidence of LAV/HTLV-III infection. Very probably the LAV/HTLV-III viruses reached Brazil only after 1974. Based on 25,000 blood tests (EIA) carried out in private blood banks, an average of 0.3% contaminated blood was found in the first run, and, when repeated (EIA), resulted in 0.17% (average) positive. Notwithstanding, Brazilian health authorities, so far, do not recommend the previous LAV/HTLV-III antibodies screening blood test for blood banks.

\* In Sao Paulo, up to Sept. 30, around 25,000 LAV/HTLV-III antibodies tests (EIA) carried out in private blood banks revealed an average of 0.3% blood units positive.