

SCIENCE NEWS of the week

Politics, Science, People . . . and AIDS

Some opening comments at the Third International Conference on AIDS this week were met with jeers, others with a standing ovation. There were words of doom and words of hope. And there was a mix of emotions, people and papers perhaps never before seen at a scientific meeting — as more than 6,350 conference attendees and 850 reporters crowded in Washington, D.C., to hear health and government officials begin the meeting.

Most controversial were statements by Vice President George Bush, who called the AIDS virus “an equal opportunity merchant of death.” Bush, echoing statements made the previous day by President Reagan, said the government plans to require mandatory AIDS testing of prisoners, immigrants and aliens seeking residency. Bush pointed out that similar screening is already under way in the military and foreign service. “Reasonable men and women may differ [on the testing issue],” he said. “Ultimately, we must protect the healthy.”

The administration also has decided to encourage states to require mandatory premarital testing for AIDS, according to Bush. He met with more positive audience response when he said the confidential testing program must not turn into a “witch hunt,” and that everyone shares a “common responsibility” to remain understanding and compassionate toward all AIDS victims. Meanwhile, outside the meeting, protesters carrying “AIDSgate” signs rallied against the administration’s AIDS policies.

Surgeon General C. Everett Koop, who supports the use of condoms and sex education to help slow the spread of AIDS, was applauded for his comments calling for courage rather than fear. “[AIDS] is disdainful of age . . . and it spitefully remains a mystery,” he said. “We dare not respond with less than our very best effort.” Part of that effort must be worldwide cooperation in public health, said Koop, pointing out that to date 51,000 cases of AIDS have been reported in 112 countries. And that number, he said, may be only half the actual cases because of incomplete reporting.

Since last year’s international AIDS meeting in Paris, there has been a “global mobilization to combat AIDS,” said Carlyle Guerra de Macedo, director of the Washington, D.C.-based Pan American Health Organization. He said nearly 80 percent of the world’s AIDS cases reported thus far have been in the Western hemisphere, with nearly all of those in Brazil, the United States, Canada and Haiti.

It was obvious to all present that since the first AIDS case was reported in the

United States six years ago this week, battles have been won and lost. “The tabulation of the dead grows longer and longer,” U.S. Assistant Secretary for Health Robert E. Windom said during the meeting’s opening session. “Looking backward is so easy. It would have been wonderful six years ago if we’d been able to say these [first cases] are enough to prompt a worldwide response.”

Late as it may be, the response has been substantial — at least in terms of dollars. Nearly \$1 billion in U.S. federal funds have been spent thus far on AIDS research, patient care, education and prevention, said Windom, adding that the states probably have spent the same amount. Currently, there are more than 36,000 reported cases of AIDS in the

United States, and the Public Health Service predicts that number could swell to 250,000 by 1990. (A report released June 3, compiled for the federal government by the RAND Corp. of Santa Monica, Calif., estimates that the nation’s medical costs for AIDS from mid-1986 to mid-1991 could exceed \$37 billion.)

Yet among the grim statistics “there is much to give us hope,” said Lowell T. Harmison, U.S. deputy assistant secretary for health. He calls the isolation and cloning of AIDS viruses, early successes in vaccine research and the introduction of AIDS drugs “major points of achievement.” Still, he says, “we are *all* at risk, and we must . . . become energized and committed to an urgent solution [for the AIDS problem].” — D.D. Edwards

New virus, growth factor found for AIDS

Yet another virus that apparently causes AIDS — along with a growth factor in the AIDS-associated Kaposi’s sarcoma and a role for leukemia viruses in the AIDS scenario — were among the new findings presented by scientists during this week’s Third International Conference on AIDS held in Washington, D.C.

According to Robert C. Gallo of the National Cancer Institute (NCI) in Bethesda, Md., his research group and other collaborators have recently found the following:

- In addition to the previously described HIV-1 (also known as HTLV-III) and HIV-2 viruses, there appears to be a third, distinct retrovirus capable of causing the fatal disease. The scientists found the virus in blood samples from 10 Nigerian patients with AIDS or AIDS-like syndrome. Tests using the patients’ serum and known AIDS viruses showed that the newly isolated virus is a separate human retrovirus that causes AIDS, says Gallo, who expects more such viruses will be found. He says the discovery increases the risk of infection by an AIDS-causing virus, but that “we shouldn’t panic” since the virus seems to be less virulent than the other AIDS viruses.

- Although the bluish or reddish skin nodules of Kaposi’s sarcoma are frequently associated with AIDS, NCI scientists have determined that the syndrome probably is not directly caused by the HIV virus, says Gallo. And, he says, his group has regulated the growth of Kaposi’s sarcoma cells in the laboratory for the first time, by manipulating the one or more growth factors

released by retrovirus-infected lymphocytes. The factors, which cause new blood vessel growth and support long-term cultures of sarcoma cells, were produced *in vitro* by lymphocytes infected with HTLV-II, a retrovirus that does not cause AIDS. Despite the dramatic effects of these growth factors on the sarcoma cells, the same cells do not respond to other, well-known growth factors as do normal cells, says NCI scientist Shuji Nakamura.

Based on the data, Gallo says the sarcoma “is not a true malignancy, and should be easily controlled by interrupting the growth factor effects.” Although it is found in only 40 percent of AIDS patients and is not in itself life-threatening, systemic Kaposi’s sarcoma can cause widespread problems including severe diarrhea, says Nakamura.

- New studies of patients with coinfections of both an AIDS virus and a virus thought to cause leukemia suggest that the leukemia virus may advance the progression of AIDS, says Gallo. The virus, called HTLV-I, has been present in the United States for many years and is not considered very contagious. However, unpublished results from NCI say that HTLV-I is spreading through urban populations of intravenous drug abusers, a group considered at risk for AIDS. According to Gallo, the HTLV-I virus may lie dormant in infected cells for perhaps 30 years, but “it should not be forgotten” as a possible cofactor in AIDS. Because of their possible roles in AIDS, Gallo says HTLV-I and -II should be included in planned AIDS vaccines and in screening tests for donated blood.

— D.D. Edwards