

Data and Dispute Mark AIDS Meeting

Amid protests by AIDS activists, researchers from around the world gathered in San Francisco last week to air new findings on today's most baffling epidemic. Scientific reports at the Sixth International Conference on AIDS ranged from sobering to promising, from clear-cut to questionable, chronicling many small steps forward but no giant leaps.

AIDS activists — angered by what they regard as the slow pace of treatment development and by federal policies restricting the U.S. entry of foreigners infected with the AIDS-causing virus (HIV) — vented their objections loudly throughout the five-day meeting. But clashes at the conference weren't limited to activists, as researchers wrangled over several controversial reports.

In one of the more provocative presentations, Luc Montagnier of the Pasteur Institute in Paris bolstered the highly speculative theory that an organism called a mycoplasma plays an important role in AIDS development. Montagnier says research conducted in his lab suggests HIV initially exists peacefully within the CD4 T-lymphocytes, white blood cells that assist in immune defenses. But co-infection with a mycoplasma, he contends, may transform the slowly replicating HIV into a killer.

Montagnier's group studied blood samples from 97 people with either AIDS-related complex (ARC) or full-blown AIDS, finding that 37 tested positive for mycoplasma. In addition, he says, when the team added mycoplasma to laboratory dishes containing a line of HIV-infected T-cells, the formerly lethargic virus began to replicate rapidly.

The new report dovetails with earlier findings by Shyh-Ching Lo of the Armed Forces Institute of Pathology in Washington, D.C. (SN: 12/2/89, p.356). In one study, Lo's group found mycoplasma in tissue samples from 24 of 34 people with AIDS. In another, they detected it in blood samples from 12 of 23 AIDS patients but found no trace of the microbe in blood from 22 healthy individuals. If further research establishes that the mycoplasma can act as an AIDS cofactor, people infected with both HIV and mycoplasma might prevent or delay disease progression by taking antibiotics along with antiviral treatment such as AZT, Lo and Montagnier assert.

Many scientists voice skepticism of the mycoplasma hypothesis, noting that mycoplasmas are common laboratory contaminants and questioning whether Montagnier's results might stem from sample contamination rather than patient infection. Jay A. Levy of the University of California, San Francisco, says his

team has tested the blood of 20 AIDS patients without finding a trace of mycoplasma.

In another controversial report, Martin Delaney of the San Francisco-based Project Inform described preliminary results of an ongoing study involving 46 HIV-infected people taking both AZT and "compound Q," an experimental treatment derived from the root of a Chinese cucumber plant. Upon entering the study, some volunteers were asymptomatic, while others had ARC or AIDS; all showed CD4 T-cell declines of about one per cubic millimeter of blood every three days despite AZT treatment, Delaney says. Such a decline usually heralds the start of serious illness for HIV-infected people.

Clinicians gave each person a monthly dose of compound Q in addition to AZT. After 116 days, the data showed a statistically significant rise in their CD4 counts, Delaney reports. Volunteers gained an average of two CD4 cells per cubic millimeter every three days, he says. The University of California statistician who analyzed the data told SCIENCE NEWS that about one-third of the study group showed a "dramatic" T-cell rise after taking compound Q.

A number of conference participants assailed the study, which is conducted without FDA oversight and involves no control group. "You don't know and we don't know whether this is a flash in the pan," said Arnold Relman, editor of the

NEW ENGLAND JOURNAL OF MEDICINE, who served on a drug panel with Delaney at the meeting.

Scientists seemed more united in their cautious optimism regarding prospects for an HIV vaccine, as researchers described incremental steps toward agents that might someday shield uninfected people from the virus and infected people from progression to AIDS. Gale E. Smith of MicroGeneSys, Inc., in West Haven, Conn., added to earlier evidence suggesting that his company's experimental vaccine elicits an HIV-specific immune response in healthy volunteers who test negative for the virus (SN: 6/9/90, p.363). "We are now seeing functional antibody and T-cell responses that in theory are capable of attacking and destroying all strains of AIDS virus," Smith says. The vaccine uses a genetically engineered HIV surface protein.

A killed, whole-virus vaccine also fared well in early human trials, according to Alexandra M. Levine of the University of Southern California in Los Angeles. Levine says 19 ARC patients and 50 people with asymptomatic HIV infection showed no ill effects — and 60 percent developed an immune response — after receiving the vaccine (SN: 8/19/89, p.116).

Despite encouraging results, many vaccine researchers say they don't expect to see an AIDS vaccine in widespread use before the turn of the century.

— K.A. Fackelmann

EPA suspects ELF fields can cause cancer

In its two-year analysis of studies exploring a possible connection between cancer and extremely low frequency (ELF) electromagnetic fields, the EPA concludes that a growing body of data now shows "a consistent pattern of response which suggests, but does not prove, a causal link." The draft report, unveiled in summary form last week, comes on the heels of several new epidemiologic studies linking cancers with exposures to ELF fields.

Electric and magnetic fields abound in nature. They also emanate from the flow of electricity through everything from transmission lines to household appliances. In the 11 years since Nancy Wertheimer and Edward Leeper reported their groundbreaking study suggesting a link between electric power lines and childhood leukemia (SN: 4/21/79, p.263), more than three dozen epidemiologic investigations have focused on the connection between electromagnetic fields and human cancer. Biological studies, however, have yet to prove a cause-and-

effect relationship.

The eight strongest epidemiologic studies, all involving children, "consistently found modestly elevated risks (some statistically significant) of leukemia, cancer of the nervous system and, to a lesser extent, lymphomas," the EPA report states. Those results do not seem attributable to confounding factors or biases generated by study design, according to the report.

Occupational studies, though weaker, point to excesses of the same cancers and "tend to support" these childhood studies, the report's authors note. Moreover, they say, tissue and cellular studies suggest it's "biologically plausible" that such fields might cause cancer.

In an earlier draft, the EPA authors concluded that ELF fields appear to represent a "probable human carcinogen," MICROWAVE NEWS reported last week in its May/June issue. However, according to the newsletter, that phrase was stricken sometime after March 12 and replaced with a more equivocal conclusion. MICRO-