

Veterans' risk from dioxin "impossible to assess"

- Damaging health effects not found
- Potential medical costs a political concern

Washington

A LONG-AWAITED study of the health consequences for Vietnam veterans of exposure to herbicides contaminated by dioxin cannot be carried out in a scientifically valid fashion. That conclusion, certain to cause a political uproar, is based on a pilot study* by the Centers for Disease Control (CDC) in Atlanta that found no differences in dioxin levels in serum between ground troops in Vietnam and matched controls with no history of exposure.

From the time Congress required the dioxin study in 1979 it has been plagued by troubles. The Veterans Administration (VA) was first asked to perform the study, but veterans groups feared that the VA might not be impartial. If a study showed that dioxin — a contaminant of the herbicide Agent Orange — caused long-term health problems, the VA would have to foot the medical bills. So, in 1983, CDC took over the project, with the congressional Office of Technology Assessment (OTA) given the responsibility of approving the CDC study protocol.

At first, CDC thought its biggest problem would be to find enough veterans who had not been exposed to dioxin. In fact the opposite turned out to be true. It was very hard to quantify exposure based on records of troop movements, making comparisons between 'high' and 'low' exposure groups virtually meaningless. Nevertheless, CDC was prepared to start interviewing subjects and conducting health examinations at the beginning of 1986. But OTA balked, not satisfied that CDC had resolved the exposure issue. CDC director James Mason warned that even four months' delay could cost \$1 million, but the work was put on hold while CDC conducted a pilot study to provide a quantifiable indication of dioxin exposure (see *Nature* 320, 476; 1986).

Clinical chemists, using a technique called high-resolution gas chromatography/high resolution phase spectrometry, developed an accurate method of determining dioxin levels in serum. According to Vernon Houk, director of the Center for Environmental Health at CDC, the test can measure levels as low as 3 parts in 10^{12} . CDC tested the blood of 665 Vietnam veterans, divided into three groups based on exposure ratings from troop movements. They found no significant differences between the groups nor between those who said they had health problems and those who were in good

health. Even more discouraging, the median for all veterans tested for dioxin was 3.8 parts in 10^9 — the median for a matched control group of veterans who did not go to Vietnam was 3.9 parts in 10^9 .

There is no question that dioxin was a contaminant of the Agent Orange used in Vietnam, and that it can be detected in serum long after exposure. The Air Force has been studying troops involved in Operation Ranch Hand, the code name for the defoliant-spraying activities. Ranch Hand veterans tested this year still show serum dioxin levels above 100 parts in 10^9 . Comparing frozen serum drawn in 1982 with repeat sampling done this year, CDC now believes that the half-life of dioxin in serum is about 7 years. As defoliant spraying occurred in the late 1960s, significant exposure should still be measurable today.

Doubts also remain about dioxin's effect on humans. Although its toxicity in animals is known, the adverse health effects in humans have yet to be conclusively demonstrated. An Air Force study of Ranch Hand veterans has failed to show any increased mortality or morbidity among those known to have had significant exposure to dioxin.

The decision to halt the Agent Orange Study may come next month. The Agent Orange Working Group science panel reviewed CDC's pilot study at a meeting on 6 August and, according to former panel chairman Carl Keller, the CDC data seem to make a scientifically valid study impossible at present. The Agent Orange Working Group will probably make its recommendations next month to the White House Domestic Policy Council. OTA's Agent Orange advisory panel meets on 27 August, and indications are that it too will conclude that the study cannot proceed.

But veterans groups are not likely to be satisfied with the arguments that troops cannot be found who were exposed to dioxin. Barry Kasinitz of Vietnam Veterans of America remains convinced that Agent Orange has caused health problems for veterans, and that the current study might force the VA to pay for their treatment. "Congress won't accept a cursory study", says Kasinitz. If he is right, it will take political courage to say that a valid study cannot be done.

Joseph Palca

* Serum Dioxin in Vietnam-Era Veterans — Preliminary Report. Morbidity and Mortality Weekly Report, Vol. 36, No. 28, pp.470-475 (1987).

No AIDS in Antarctica

Washington

ANYONE intending to spend the entire winter at any of the National Service Foundation-supported Antarctic stations must be tested for the presence of antibodies to HIV, the virus causing AIDS (acquired immune deficiency syndrome). Those testing positive will not be allowed to spend the winter. That policy was announced in a letter from Peter Wilkniss, director of the division of polar programmes. The new policy does not apply to summer-time investigators. It takes effect in the 1988 austral winter. J.P.

Scientists rehabilitated

London

THE Soviet Supreme Court has posthumously rehabilitated a group of agrarian scientists who perished in the repressions of the Stalin era. They include Aleksandr Chayanov, Nikolai Kondrat'ev, Aleksandr Chelintsev, Nikolai Makarov and Leonid Yurovskii. Most of them had worked during the 1920s as consultants to various state institutions. V.R.

New ACOST members

London

FOUR prominent figures from the UK academic community have joined the 15 members of what was the Advisory Council for Applied Research and Development to form the British government's new Advisory Council on Science and Technology (ACOST). Together with Sir John Collyear, chairman of the Department of Trade and Industry's Technology Requirements Board, the new members are: Sir Peter Swinnerton-Dyer, chairman of the University Grants Committee; Sir George Porter, president of the Royal Society; Professor Keith Peters of the Royal Postgraduate Medical School; and Professor Leonard Maunder of the University of Newcastle upon Tyne.

The council is due to meet in September, when it is expected that the future of the national space programme and continuing membership of the European Organization for Nuclear Research (CERN) will dominate proceedings. S.L.H.

Dirac medals awarded

London

THE 1987 Dirac Medals of the International Centre for Theoretical Physics (ICTP) at Trieste, Italy, have been awarded to Bruno Zumino, of the University of California, Berkeley, and Bryce de Witt, of the University of Texas, Austin. The awards were made in recognition of Zumino's leading work on field theory over the past 25 years and de Witt's fundamental contributions to the study of classical and quantum theory. Since 1985, ICTP has awarded the medals annually in memory of the late Paul Dirac. S.L.H.