Upton OK's Laetrile Test on Humans

In an attempt to clear up the 20-year-old Laetrile controversy "once and for all," National Cancer Institute (NCI) director Arthur C. Upton on 27 September called for an NCI clinical trial of the apricot pit derivative. Between 150 and 300 terminal cancer patients are expected to begin receiving the drug before January, with the first results coming in by next spring. The decision comes after a long and bitter dispute between Laetrile advocates who claim that some 70,000 American cancer patients have benefited from the drug and a scientific establishment that for the most part feels Laetrile is a hoax. Said Upton in announcing the decision: "It's an issue that begs resolution."

The decision comes 15 years after NCI was first asked to conduct a clinical trial of Laetrile. But repeated tests in animals never showed evidence that Laetrile could combat cancer, and testing never proceeded to humans.

Upton's quick decision came 2 days after NCI's Decision Network Committee, a group of NCI physicians and scientists, made a half-hearted recommendation calling for a clinical trial of Laetrile (*Science*, 6 October). The vote was 14 in favor of a trial, 11 against. Their recommendation was based on a $152,000 inconclusive review of the medical records of cancer patients who used Laetrile. Of the 22 cases where all the necessary records could be obtained, six patients showed improvement, nine stayed the same, and seven got worse.

Asked by a wire service reporter whether he had been disappointed with the ambiguous results of the retrospective study, Upton said: "Yes. I would have hoped for either no cases or a couple of hundred good ones. As it was, the results fell in a gray area where you can either argue you have proof or that you have nothing."

But Upton also told the group of 200 workers and reporters at the announcement: "By virtue of the fact that thousands of people are now receiving Laetrile and the fact that we have this evidence, inconclusive as it may be in humans, we can justify a trial to resolve the matter once and for all." Since that decision, 150 cancer patients have called NCI to volunteer.

The Institute will propose a "phase two" trial, which will determine whether Laetrile can produce shrinkage of tumors in patients with advanced cancers. If successful, testing would then move to a "phase three" study where Laetrile's effectiveness would be compared with standard anticancer drugs. Upton said he hoped the protocol "would not rule out" the use of Laetrile in conjunction with what its proponents call a program of total metabolic therapy—including a vegetarian diet, supplemental vitamins and enzymes, and chelated minerals—which they insist is crucial to the drug's success.

Objections are already being raised. As with the case-review study, some researchers argue that "total metabolic therapy" masks the effect of the drug, that metabolic therapy rather than Laetrile may be responsible for a stimulation of the immune system that brings patient improvement.

But Upton acknowledged in response to a question that Laetrile advocates would reject the NCI findings as out of hand if the metabolic program was not included. Robert W. Bradford, chairman of the country's largest pro-Laetrile group, the Committee for Freedom of Choice in Cancer Therapy, said in a telephone interview that he was pleased with Upton's decision. He also noted that unless the total metabolic program was used, his group would not endorse the findings.

NCI now must apply for an Investigational New Drug (IND) permit from the Food and Drug Administration (FDA). According to an NCI spokesperson, it will take 3 months to review the possible protocols and to submit the application to the FDA. Although commissioner Donald Kennedy has repeatedly come out against a clinical trial of Laetrile, he said the FDA would make an "objective evaluation" of NCI's request and decide "as quickly as possible." Says Kennedy: "We don't believe the restrospective review done by NCI demonstrates any effectiveness of Laetrile. But there are other reasons that we all recognize that a controlled clinical trial might be desirable and NCI has been persuaded by them."—WILLIAM J. BROAD

certain—his selection is ultimately approved by the Department of Energy, he will be in a position, at age 56, to bring up to a decade of new leadership to the laboratory.

While the torch has not quite been passed into the hands of the new leadership, it has clearly passed out of the hands of the old. Wilson has stepped down as director of the laboratory and accepted a faculty position at the University of Chicago. He is still tenuously connected with the laboratory as a consultant for its $38 million project to double the accelerator's energy, but he was apparently not asked to head the so-called doubler project as he requested on resigning (*Science*, 10 March). In keeping with his reputation as a sculptor, Wilson's new position at Chicago is an endowed chair in the undergraduate humanities department, where he will teach, among other things, art and design.

Wilson's deputy director since 1967, apparently passed over by the board of trustees, has also left the laboratory. Widely praised by those who have worked with him as an outstanding administrator, Edwin L. Goldwasser has returned to the school where he previously taught, the University of Illinois, Urbana-Champaign, to become dean of the graduate school and vice-chancellor for research. Since 17 July, the man who had been head of the doubler project and in some sense the number three administrator of the laboratory, Philip Livdahl, has been serving as acting director until Wilson's successor is named.

As practitioners of big science for many years, high-energy physicists have learned to be very politic. Although word of administrative disarray at Fermilab has circulated privately for years, physicists have been hesitant to criticize Wilson's organization publicly, not only because it would be impolitic but also because there is great respect for his achievements through a career of accelerator building that started in the Berkeley laboratory of E. O. Lawrence. Nevertheless, many think there were problems at Fermilab. Department heads were rotated at least every 18 months, physicists were put in nonscientific administrative posts and then soon removed, and few people stayed in their jobs long after they learned them. A tremendous effort was put into developing accelerator technology, and many thought it was at the expense of the funding for research. The laboratory had started life with a shotgun approach to particle research, mounting many small experiments, and critics think Wilson waited too long to consolidate the experimental program

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