Unproven Methods of Cancer Management

Laetrile

After careful study of the literature and other information available to it, the American Cancer Society does not have evidence that treatment with Laetrile results in objective benefit in the treatment of cancer in human beings.

The following is a summary of information on Laetrile in the American Cancer Society files as of November 1971:

Therapy

According to Ernst T. Krebs, Sr., M.D. (one of the founders of the John Beard Memorial Foundation, San Francisco, California), Laetrile was first used by him in the treatment of far advanced cancer patients shortly after 1920 when "substantial results" were obtained from the use of a beta-cyano-genetic glucoside named amygdalin, derived from apricot kernels. This, however, was too toxic for general use. In 1952, it was reported that Dr. Krebs' son, E. T. Krebs, Jr., a biochemist, had been able to "make the empirical apricot formula safe for parenteral (injection) administration to humans." This synthetic compound was reported in 1959 to consist of benzaldehyde, glucuronic acid and hydrocyanic acid. In 1962, it was referred to as 1-mandelo-nitrile-beta-glucoroni-dase. It is sometimes called Vitamin B17.

The derivation of the name was described by Howard H. Beard, Ph.D., in his book A New Approach to the Conquest of Cancer, Rheumatic and Heart Diseases as follows: "Because this apricot kernel preparation was 'laevorota-tory' (left-handed) to polarized light, and because amygdalin was chemically a 'mandelonitrile, ' Krebs, Jr., united the first and last syllables to invent a name for this new cancercidal drug—Laetrile."

According to Dr. Beard, "as soon as it comes in contact with the beta-glucuronidase in the tumor, hydrocyanic acid is liberated and this immediately stops all tumor respiration. That's the end of that tumor. If there is not sufficient of the enzyme (beta-glucuronidase) present in the tumor, then it must be injected by the clinician." He also states that it "should be given daily or every other day in doses of two mg. per pound of body weight. Dairy products, eggs and all sulfur-bearing foods must be avoided. Milk inactivates chymotrypsin. A strictly vegetable and fruit diet with vitamins is the ideal diet for the cancer patient. . . ."

Unitarian or Trophoblastic Theory of Cancer

The fundamental biological rationale for Laetrile, according to proponents of the preparation, derives from the Unitarian or Trophoblastic Thesis of Cancer (UTTC), which was first announced in 1902 by John Beard of Edinburgh, Scotland. According to Howard Beard, this thesis "states that the wandering germ
cells of early life can later be activated to divide and produce trophoblast cells which, outside the canalization of pregnancy, are the malignant cells. Since the pregnancy trophoblast begins to disappear about the time the fetal pancreas develops he (John Beard) also suggested the use of pancreatic extracts for the treatment of human malignancy. *"2 As reported in his book, later studies have convinced Howard Beard that cancer is a chymotrypsin and nutrition deficiency disease, and that "pancreatic chymotrypsin prevents about 80 percent of civilization from ever developing malignancy, while in the other 20 percent, benign or malignant tumors will always arise, unless prevented by adequate screening tests and chemotherapy."  

Proponents

Laetrile is manufactured and distributed by the John Beard Memorial Foundation. According to a bulletin issued in 1952 titled Institutions, Foundations and Research Units the "John Beard Memorial Foundation is concerned with biological, biochemical and medical research. It is a nonprofit organization founded, privately-owned and maintained through the benefaction of the Krebs family. The Foundation has no organic affiliation with any other institution. . . ." It also stated: "The Foundation has never solicited public funds nor used such funds; however recently it has been offered several moderate grants to be used in carrying out specific research. . . ." The Director was given as Ernst T. Krebs, Jr. Other sources state that his father, Ernst T. Krebs, Sr., M.D. and his brother, Byron A. Krebs, D.O., were associated with him in the work of the Foundation which manufactured and distributed Laetrile and other preparations used in the treatment of cancer.

According to the American Medical Association Directory, 1969, Ernst T. Krebs, Sr. was born in 1877. He received an M.D. from the College of Physicians and Surgeons of San Francisco in 1903, and was licensed to practice medicine in California in that same year. He was engaged in research in a specialty other than those recognized by the A.M.A. He died as the result of a fall on January 21, 1970.

Very little information has been received concerning Ernst T. Krebs, Jr. Co-workers refer to him as a biochemist.

In 1963, newspaper articles reported he was 50 years old. They also stated he had at one time been a student at Hahne mann Medical College in Philadelphia, but "he turned from his medical studies and transferred to the University of Illinois for two years of bacteriology and physiology. From Illinois, he went to the University of California for two years of anatomy and pharmacology."  

Byron Asa Krebs, D.O. is listed in the American Osteopathic Association Directory of Osteopathic Physicians, 1960, as a nonmember. He was born in 1917, and received a D.O. from the College of Osteopathic Physicians and Surgeons in Los Angeles, California, in 1948. The American Medical Association Directory in 1969 had the additional information that Byron Krebs received an M.D. degree from the California College of Medicine (formerly College of Osteopathic Physicians and Surgeons) in Los Angeles, California, in 1962, at the time that all practicing osteopaths in California were given an opportunity to receive an M.D. degree as part of a program of unification of physicians in California. He was also reported to be a full-time general practitioner.

Originally, Laetrile received from the John Beard Memorial Foundation was distributed in Canada by the McNaughton Foundation of Montreal. Later, Laetrile was manufactured for the Foundation by Delmar Chemicals, Ltd., Ville LaSalle, Canada. The Mc-
Naughton Foundation was, according to its founder, Andrew R. L. McNaughton, set up in 1956 as a nonprofit research foundation, which "specializes in sponsoring independent research, particularly it is interested in scientists who are unable to get backing from orthodox research organizations either because their ideas are too far off the normal thought of the day or because the individual himself, because of his personality, is unable to get along with organizations."

In January, 1969, a letter from Mr. McNaughton had a stamped address, P.O. Box 778, Mill Valley, California. In a pamphlet on "The McNaughton Foundation," which was being distributed in December 1969, both Canadian and California addresses were given. Officers of the Foundation were listed as follows: Andrew R. L. McNaughton, President; James D. Kadlec, Vice-President; Stephen Zalac, Vice-President; Jacqueline M. McNaughton, Secretary-Treasurer, and Andrew E. L. McNaughton, Assistant to President, with the note that Mr. Kadlec is the financial advisor and Mr. Zalac, "a specialist in nutrition, is in charge of the field operation in Canada." It added: "A California associate has recently been formed, the McNaughton Foundation of California, of which Walter M. Gustavson, Jr., is President."

"The McNaughton Foundation does not maintain a large staff or laboratories of its own. Instead it provides funds to universities and qualified research organizations which are earmarked for the use of specified scientists for research on subjects in which the foundation is interested. . . . Neither the President, Mr. . . . McNaughton, nor any of the officers receive any salaries or other renumeration from the foundation except for reimbursement of monies expended by them on behalf of the foundation." The 12-member Advisory Committee includes Charles Gurchot, Ph.D. as a full time research consultant and Dr. James D. Hamilton, B.S.C. (Honors), M.A., Ph.D., M.D. as the Medical Research Consultant to the Foundation. In 1970, the address of the McNaughton Foundation in California was given as Sausalito, California.

According to a Medical World News article in 1968, Biozymes International Ltd. of Canada "openly transships Laetrile from at least three foreign countries." "The McNaughton Foundation was also named as its technical consultant. The earliest reference to this company in the American Cancer Society files is in 1963. In 1964, at the trial of The McNaughton Foundation vs. C. A. Morrell, Director of the Canadian Department of Health and Welfare and P. E. Jean, Director of the Canadian Food and Drugs Directorate, concerning Laetrile, Biozymes International Ltd. was named as a commercial outlet for the McNaughton Foundation by G. S. Delmar, Vice President and General Manager of Delmar Chemicals Ltd., which was at that time manufacturing the Canadian Laetrile.

Investigation
In 1953, the Cancer Commission of the California Medical Association investigated Laetrile as a treatment for cancer in human beings. Their findings were published in California Medicine. 5 A section of their report titled "Conclusions of the Commission" stated in part: "The Commission has collected information concerning 44 patients treated with Laetrile, all of whom either have active disease or are dead of their disease, with one exception. Of those alive with disease, no patient has been found with objective evidence of control of cancer under treatment with Laetriles alone.

"Nine patients dying from cancer after treatment with Laetrile have been autopsied, and histological studies done for the Commission by five different pathologists have shown no evidence of any chemotherapeutic effect.
"In two independent studies by experienced research workers, Laetrile has been completely ineffective when used in large doses on cancer in laboratory animals, in lesions which are readily influenced in useful chemotherapy."

On May 15, 1965, the Canadian Medical Association Journal published a report titled 'Laetrile: A Study of its Physicochemical and Biochemical Properties.' Both Laetriles (Krebs and Canada) were investigated. This report concluded: "... From the data obtained neither product can be considered as a palliative in cancer therapy on the basis of the biological rationale advanced by the manufacturer."

A letter dated January 13, 1969, from Mr. McNaughton to the American Cancer Society stated: "As of November 1968 we have filed with the Food and Drug authorities in Canada, the U.S.A. and Mexico all of the information which normally is adequate for the release of a new drug for clinical testing in humans. This information includes extensive animal efficacy studies in accordance with the protocols of the National Cancer Institute as well as toxicity studies for the various routes of administration recommended for this drug.

"As of now we have received an acknowledgement of this filing from the Canadian and Mexican Authorities only. In Mexico an independent preliminary evaluation of Laetrile in terminal cancer patients has been carried out under Government auspices with most encouraging results. . . ."

Federal Action

In 1962, according to a report from the U.S. Food and Drug Administration, Ernst T. Krebs, Jr. and the John Beard Memorial Foundation pled guilty in the U.S. District Court, San Francisco, California, to five counts of violating the new drug provisions of the Federal Food, Drug, and Cosmetic Act. A total fine of $3,755 was assessed. Imprisonment for Ernst T. Krebs, Jr. was suspended, and he was placed on three years' probation which contained the specific provision that he was prohibited from the interstate shipment of any new drugs, including Laetrile in particular, without an effective new drug application from the Food and Drug Administration. The Court has subsequently permitted a very limited distribution of Laetrile to the McNaughton Foundation of Canada and to a few other physicians who have claimed that they had experimental patients on the drug.

A report on the current status of Laetrile, distributed by the U.S. Food and Drug Administration in March 1963, closed with the statement: "The Food and Drug Administration has seen no competent, scientific evidence that Laetrile is effective for the treatment of cancer."

On August 2, 1965, Ernst T. Krebs, Sr., M.D., 87, originator of Laetrile, agreed to a permanent court injunction against further distribution of the drug, and told the U.S. District Court, San Francisco, California, that he was going out of business. According to the FDA Report on Enforcement and Compliance, September 1965, he also 'pledged 'no contest' to criminal contempt charges stating that he disobeyed a restraining order, prohibiting shipment of Laetrile in interstate commerce. Since the restraining order was issued in May 1965, Dr. Krebs had shipped Laetrile to a hospital in Alabama and to doctors in Utah, Texas, and Washington.'

This report also noted that the Food and Drug Directorate of Canada had previously taken action against the McNaughton Foundation which was distributing Laetrile in Canada, contending 'that the product was dangerous and did not meet the requirements of the New-Drug Act, which, similar to U.S. law, requires proof of safety and efficacy. . . . A Superior Court Judge in Montreal, Quebec, upheld the right of
Canadian food and drug officials to prohibit distribution of Laetrile."

On January 21, 1966, Dr. Krebs pleaded guilty to a contempt charge of shipping Laetrile in violation of an injunction. On February 3, 1966, he was given a suspended sentence of one year by a California U.S. District Court for failing to register as a producer of drugs, namely Laetrile. This was one count of an 11-count Information. Two other counts involving failure to register as a drug producer and eight counts concerning illegal shipments of Laetrile were dismissed. The judge indicated that he would impose a substantial fine if Dr. Krebs violated a permanent injunction against sales of Laetrile during his probation.

On April 20, 1970, the Food and Drug Administration assigned IND 6734 to the Investigative New Drug application of the McNaughton Foundation of California to test Amygdalin-Laetrile. This gave the McNaughton Foundation permission to obtain supplies of the investigational drug and to initiate clinical studies. This was widely reported in the newspapers.

According to a statement by Dr. Charles C. Edwards, Commissioner of Food and Drugs on June 9, 1970: "As with all 'cancer' drugs the review of the IND was expedited. . . . This review was completed on April 27, 1970, 21 days from the date of receipt. The review disclosed a number of serious preclinical and clinical deficiencies. On April 28, 1970, a 10 day pretermination notice was issued detailing the deficiencies in the notice, and the sponsor was notified by wire to immediately cease clinical studies. The sponsor was allowed 10 days in which to either request a conference or to correct the deficiencies which were brought to his attention. Since the sponsor did neither, the IND was terminated on May 12, 1970."*

On September 1, 1971, the FDA announced in a news release that an Ad Hoc Committee of Consultants for Re-

view and Evaluation of Laetrile (Amygdalin) had found "no acceptable evidence of therapeutic effect to justify clinical trials" of the drug. The consultant Committee was composed of five non-FDA cancer specialists, including Albert Segaloff, M.D., Director, Endocrine Research, Alton Oschner Foundation, New Orleans, Louisiana; Melvin J. Krant, M.D., Director, Medical Cancer Unit, Tufts University, Medford, Massachusetts; David P. Rall, M.D., Ph.D., Associate Science Director for Experimental Therapeutics, National Institute of Environmental Health Sciences, Research Triangle Park, North Carolina; Michael B. Shimkin, M.D., Professor of Community Medicine and Oncology, University of California, San Diego, California, and Julian L. Ambrus, M.D., Ph.D., Director of Cancer Research, Roswell Park Memorial Institute, Buffalo, New York.

After noting that "starting May 21, 1971, the Ad Hoc Committee of Oncology Consultants independently reviewed the McNaughton Foundation submissions on Laetrile," the news release continued: "Under the FDA position reinforced today by the Ad Hoc Committee findings, Laetrile (Amygdalin) may not be promoted, tested or sold in the United States under provisions of the Federal Food, Drug and Cosmetic Act until the necessary basic studies have been accomplished. The FDA also has requested Dr. Ernesto Contreras, Mexico, and Dr. Hans Nieper, Germany, to provide any clinical records they may have on Laetrile treatments they have been giving patients. The FDA said the request was part of its continuing efforts to obtain scientific evidence to support claims by Laetrile advocates that the substance is an effective anticancer agent."
State Action

On May 20, 1963, the Cancer Advisory Council to the Director of the California Department of Public Health issued a report which concluded that "'Laetriles' are of no value in the diagnosis, treatment, alleviation or cure of cancer...." and recommended that a regulation be issued prohibiting the use of "Laetriles" or any substantially similar agent, for such purposes. This regulation was issued September 20, 1963, by the State Board of Health.9

Publications

Several brochures concerning Laetrile have been published and distributed by the McNaughton Foundation. One, titled "The Laetriles—Nitrilosides—in the Prevention and Control of Cancer," had a bibliography of 26 references. Of these, two were in manuscript, one in press and one, a paper read before the Osteopathic Internists convention at Philadelphia in 1954. Of the remaining 22 reports, all but one were published in foreign journal. Eighteen were by Manuel D. Navarro, m.d. of the Philippine Islands, many of them containing only a single case report. The single U.S. publication titled "Chemotherapy of Inoperable Cancer. Preliminary Report of 10 Cases Treated with Laetrile," by John A. Morrone, M.D., F.I.C.S., A.S.A.S., stated in summary: "Possible regression of the malignant lesion was suggested by the therapeutic results in 10 cases of inoperable cancer with metastases. Intravenous injections of Laetrile (1-mandelonitrile-beta-glucorinoside) provided effective pain relief permitting the discontinuance of narcotics, control of fetor, improved appetite, and reduction of adenopathy. The only side effects were a fall of blood pressure and slight itching and heat sensation in the affected areas."10

The latest Navarro report given in the Bibliography, "Laetrile Therapy in Cancer," 1962, stated in the conclusion:

"The considerable increase in the therapeutic dose of Laetrile produced more dramatic anti-blastic effects as compared to those achieved with the 50 mg. dose in 1952. These illustrative cases though few in number are sufficient to call the attention of previous investigators, who claimed to have found Laetrile useless at the smaller dose range. They should try the drug again in the larger dose range."11

The author had reported use of dosages of 1,600 mg. intravenously and stated: "The writer feels that the administration of Laetrile in the 3,000-5,000 dose range would produce better anti-blastic effects."12

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