

October 17, 1979

NEWS

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*****Toxicologists warn against cyanide poisoning from laetrile.

DALLAS--People taking laetrile for cancer should be tested regularly for cyanide poisoning. And now with a new test developed here patients can be easily checked by their physicians, says Dr. Thomas Gardiner, assistant professor of pharmacology at The University of Texas Health Science Center at Dallas.

"We are not advocating the use of laetrile, nor are we condemning it," says Gardiner. "Our tests are not related to whether laetrile is effective against cancer."

He and his associates have used the new faster and more accurate test for cyanide in the blood to study the toxicity of laetrile (amygdalin) in rats in amounts comparable to those being given to cancer patients in "laetrile clinics." Blood levels of cyanide found in the study are in the range of those in humans reported in the medical literature as cyanide poisoning victims. The Dallas study also shows that amygdalin given by injection intravenously and intraperitoneally (through the abdomen) is much less toxic than amygdalin given orally.

Until now, says Gardiner, no one has routinely measured the production of cyanide from amygdalin in the body because blood tests for cyanide have been cumbersome and time-consuming. The new one is fast as well as accurate and sensitive enough to measure cyanide at non-lethal levels.

In the toxicity study, doses of 10, 50 and 250 milligrams of amygdalin per kilogram of body weight were given daily to different groups of rats. Control groups received no amygdalin.

All those taking amygdalin showed toxic levels of cyanide in the blood with those taking it orally having a much higher concentration. The maximum blood level on oral amygdalin was 0.7 milligrams per liter, seven times higher than that for intravenous and 21 times higher than that for intraperitoneal injection. Blood cyanide levels as low as 1.1 milligrams per liter have been reported in fatal cases in humans.

Laetrile taken by mouth produces more cyanide in the body because bacteria in the intestine are very active in producing enzymes that break the compound down. And the content of the diet affects the kind and number of bacteria, thus affecting the amount of cyanide produced.

Thus far, six deaths from laetrile have been reported in the medical literature. Most of these have occurred in children and others swallowing laetrile that was not intended for their use.

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In addition, there have probably been a lot of unreported deaths from laetrile in the opinion of Dr. James Garriott, assistant professor of pathology and pharmacology at UTHSCD and chief toxicologist at Southwestern Institute of Forensic Sciences (SIFS). "Many labs don't test for cyanide, especially in cancer patients. The symptoms of cyanide toxicity are symptoms of other problems, too--dizziness, nausea and vomiting followed by low blood pressure, shock, stupor, coma, respiratory failure and ultimately death." When a patient is known to have cancer, these symptoms may be thought to be related to the disease rather than to cyanide poisoning. Some deaths among patients taking laetrile have probably been mistakenly attributed to cancer.

"We are not addressing whether laetrile works," says Garriott. "It's a fact of life that people are taking it--an estimated 100,000 people in this country. Physicians should be aware that cyanide toxicity is a possibility when patients are taking laetrile. They should monitor the blood for cyanide."

Dr. Bill McAnalley, instructor of pharmacology at UTHSCD and toxicologist at SIFS, suggests that physicians test patients for cyanide levels before beginning laetrile treatment and test them periodically for changes. Ordinarily, the body can deal with cyanide in minute amounts. Detoxification takes place mostly in the liver. But in this study the maximum cyanide level in the blood was reached within six hours at all dosages, and laetrile dosing of patients is usually every six hours. This means that cyanide would be accumulating in the body because the body does not have time to eliminate it between doses.

McAnalley was instrumental in developing the new blood test, an adaptation of a method using a "specific ion" electrode to measure cyanide in waste water. The blood test method was reported in the May/June issue of Journal of Analytical Toxicology.

Gardiner cautions against applying the rat study directly to humans. "We cannot be sure that this extends to humans. But the bottom line is--there's enough evidence that physicians with patients taking laetrile should be alert to the possibility of cyanide poisoning."

The study group included Gardiner, McAnalley, Garriott and Dr. William Lowry, assistant professor of pathology.

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