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Blood-thinner safety effort touted

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A Tucson-based research institute says it is improving the safety of a widely used blood thinning drug.

It is difficult for physicians to determine the correct initial patient dose of warfarin, an effective blood thinner used for more than 50 years, said Dr. Raymond Woosley, president and CEO of the Critical Path Institute.

C-Path teamed with the American Medical Association to launch an educational program last week to inform doctors and the public how to safely use the thinner, he said.

The resulting brochure is "Personalized Health Care Report 2008: Warfarin and Genetic Testing."

Doctors typically prescribe a low dose and work up to the appropriate level slowly, using trial and error, Woosley said. If the drug level is too high, patients can bleed to death. Or suffer strokes if too low.

"It is not standardized and there are many variations," Woosley said. "It's very complicated."

Research shows that 21 percent of patients who receive anticoagulant therapy experience major or minor bleeding events. A simple genetic test can allow doctors to give patients suffering from clots, heart and vascular problems and recovering from surgery the correct initial dose of blood thinner, Woosley said.

About 50 percent of people who would benefit from warfarin don't get it because of the bleeding risk.

"If we can make the drug safer using the genetic tests, doctors will use it more often," Woosley said. "This could save 17,000 strokes and $1 billion in health care costs per year.

"There are 85,000 serious bleeding events per year that could be saved with this kind of test."

A November 2006 study by the AEI-Brookings Joint Center for Regulatory Studies estimated that 2 million patients in the U.S. begin taking warfarin - commonly known by the brand name Coumadin - each year.

It is the second most common drug after insulin implicated in emergency room visits for adverse drug events, especially bleeding complications. It caused an average of more than 43,000 emergency room cases per year in 2004 and 2005, according to the study.

The genetic test, done using blood, saliva or material scraped from inside the cheek, looks at three genes that regulate sensitivity to the drug and how fast the person burns it up, he said.

Variations found in human genes CYP2C9 and VKORC1 can determine how the patient will react to warfarin.

"Here you have your genes telling you how you are going to handle this medicine," Woosley said.

The genetic test can help doctors pinpoint the correct initial doses for warfarin, but patients receiving the blood thinner must continue to have their blood tested at regular intervals to make sure the drug level is optimal, he said.

C-Path focuses on speeding the development of safe medicines and ensuring medicines are uses safely and effectively, he said.

ADDITIONAL INFORMATION

ON THE WEB
Site for warfarin genetic testing brochure:
www.ama-assn.org/ama1/pub/upload/mm/464/warfarin_brochure.pdf