HEALTH

FEBRUARY 2011 Heart Medication Awareness MEMBERS

Heart medication awareness

Your body's ability to form blood clots is very important when you have a cut or an open wound. The clotting works to stop the bleeding. Blood clots inside the body, however, can be very dangerous. For example, blood clots in the arteries can cause heart attacks, strokes, or even death. It is very important to control the body's ability to form blood clots inside the body. This is especially important in people with heart disease.

There are two kinds of medication that help do this: *antiplatelet* drugs and *anticoagulant drugs*. In our newsletter last August, we shared with you important information about a Food and Drug Administration (FDA) warning for the antiplatelet drug clopidogrel bisulfate (sold under the brand name Plavix[®]).



Now we want to let you know about recent developments relating to *warfarin sodium*, an anticoagulant medication most commonly sold under the brand name Coumadin[®]. Warfarin is the most prescribed anticoagulant medication worldwide. During 2003 alone, more than 21 million prescriptions were filled just in the United States.¹

In 2006, the FDA came out with a serious warning about warfarin. The FDA had concerns that it could cause major bleeding in some people. In these people, warfarin is so good at decreasing the body's ability to form blood clots that they actually become at risk of bleeding. People at high risk include those with a history of gastrointestinal bleeding, high blood pressure, serious heart disease, cancer, or kidney problems. Also at high risk are people who have been taking warfarin for a long time.

Finding the right dose

Finding the right dose of warfarin for each patient is very important. But it's not easy. There is no standard dose that works for everyone. One reason is that people respond differently to it. Some people are very sensitive to warfarin, while others are not.

Doctors have usually used trial-and-error to figure out the right dose for each patient. This means that a doctor would make his or her best guess at what the correct dose should be and begin there. Then she/he would watch how the patient responded and adjust the dose as necessary. But it's during this period that the patient is at the highest risk of experiencing a bleeding event.



What genetic testing is and why it's important

Genotype testing can help doctors get much closer to the right warfarin dose the first time. Information from the test can help decrease the amount of trial-and-error.² It can also decrease the amount of time needed to find the right dose.²This decreases the patient's risk of bleeding events.³

Genotype testing finds out if a person has certain gene changes that make him/her more sensitive to warfarin. If he/she does, the doctor will prescribe a lower dose of warfarin. In 2010, the FDA provided doctors with guidelines that will help with this.

Of course, other factors play a part in determining an individual's optimal warfarin dose. These include:

- Age
- Race
- Body weight or surface area
- Gender
- Tobacco use
- Other medications
- Other medical conditions
- Diet, especially vitamin K which, is found primarily in green, leafy vegetables and some fruits such as avocado and kiwi

The AccuType[®] Warfarin test from Quest Diagnostics is a genotype test that can detect the important gene changes. Information from this test, along with the patient's clinical information, can help the doctor choose a better warfarin dose to start with than just "guess-timating."

Additional resources for more information

To learn more about heart disease and stroke, please visit the Quest Diagnostics Web site at http://www.QuestDiagnostics.com/destinationhealth/heart/heart.html.

References:

1. Marketos, M. The top 200 generic drugs in 2003 (by units). *Drug Topics*. 2004;148:76-76.

2. Caraco Y, Blotnick S, Muszkat M. CYP2C9 genotype-guided warfarin prescribing enhances the efficacy and safety of anticoagulation: a prospective randomized controlled study. *Clin Pharmacol Ther.* 2008;83:460-470.

 Epstein RS, Moyer TP, Aubert RE, et al. Warfarin genotyping reduces hospitalization rates: results from the MM-WES (Medco-Mayo Warfarin Effectiveness Study). J Am Coll Cardiol. 2010;55:2804-2812.

Quest, Quest Diagnostics, the associated logo, and all associated Quest Diagnostics marks are the trademarks of Quest Diagnostics.

Coumadin[®] is a registered trademark of the Bristol-Myers Squibb Company.

Plavix[®] is a registered trademark of the Bristol-Myers Squibb/Sanofi Pharmaceuticals Partnership.

© 2011 Quest Diagnostics Incorporated. All rights reserved. www.QuestDiagnostics.com 2/2011

