

Personalized medicine in warfarin therapy

February 25 2010

Researchers from the Ohio State University have developed a rapid, multiplexed genotyping method to identify the single nucleotide polymorphisms (SNPs) that affect warfarin dose. The related report by Yang et al, "Rapid Genotyping of SNPs Influencing Warfarin Drug Response by SELDI-TOF Mass Spectrometry," appears in the March 2010 issue of the *Journal of Molecular Diagnostics*.

Warfarin is an anti-coagulant that is commonly used to prevent blood clots and embolism. However, warfarin dosing is complicated by the fact that it interacts with many commonly used medications and even chemicals in some foods. Certain genetic variations, SNPs, also affect warfarin sensitivity and metabolism.

A group led by Dr. Haifeng M. Wu of the Ohio State University has developed a new rapid method to genotype SNPs that will help clinicians to choose appropriate doses of warfarin for individual patients. Using surface-enhanced laser desorption and ionization time-of-flight [mass spectrometry](#) (SELDI-TOF MS), which can determine the elemental composition of a sample, Yang et al could determine the genotype of three warfarin-related SNPs in under five hours with high levels of accuracy.

Yang et al suggest that "on-site application of this method in hospital laboratories will greatly help clinicians to determine appropriate doses of [warfarin](#) to treat patients with thromboembolic disorders." In future studies, Dr Wu and colleagues plan to apply the SELDI-TOF platform to genotype other medically important SNPs that influence the efficacy and

safety profiles of many drug therapies and ultimately to promote personalized health care at Ohio State University .

More information: Yang S, Xu L, Wu HM: Rapid Genotyping of SNPs Influencing Warfarin Drug Response by SELDI-TOF Mass Spectrometry. J Mol Diagn 2010, 162-168.

Provided by American Journal of Pathology

Citation: Personalized medicine in warfarin therapy (2010, February 25) retrieved 26 April 2024 from <https://phys.org/news/2010-02-personalized-medicine-warfarin-therapy.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.