

Blood Thinner CASE STUDY

think
genetic

The Case

Mr. Stevens* is a 53-year-old male with a history of coronary artery disease and stent placement. Several weeks ago, he was prescribed Clopidogrel (common name Plavix) and aspirin to reduce the risk of thrombosis. A pharmacogenomic test is performed to determine whether any DNA changes are present that impact how Mr. Stevens responds to cardiovascular and other types of medications.



The Outcome

The pharmacogenomic test found that Mr. Stevens is predicted to be a poor metabolizer of Clopidogrel based on changes in his CYP2C19 gene. Poor metabolizers do not benefit from the therapeutic action of the drug and have an increased risk of thrombosis or stroke. Based on this, Mr. Stevens' physician decides to prescribe an alternate medication.

1. Clinical Pharmacogenetics Implementation Consortium Guidelines for CYP2C19 Genotype and Clopidogrel Therapy: 2013 Update <https://cpicpgx.org/guidelines/guideline-for-clopidogrel-and-cyp2c19/>

* Fictitious Name

By integrating our expertise in genomics, patient engagement and education, as well as clinical decision support, the **HudsonAlpha Health Alliance** works with groups such as health systems, physician networks, and self-insured employers to develop customized genomic health screening programs for their patient or employee populations.

Genomic testing can provide:

- Targeted therapies leading to higher probabilities of success
- Fewer negative reactions from medications and treatments
- Precise health information for better health decisions

At the HudsonAlpha Health Alliance, we believe the future of medicine includes an integrated analysis of personal genetic data that will help guide care and therapy.

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For more information, go to HAHealthAlliance.org

(HudsonAlpha Health Alliance does not endorse or prescribe drugs, diagnose patients or recommend therapy.)

Statin CASE STUDY

The Case

Ms. Jefferson* is a 46-year-old female with a history of high cholesterol. Her physician prescribed simvastatin, which has brought her cholesterol to appropriate levels. However, Ms. Jefferson reports she feels more fatigued and has difficulty keeping up with her family. Her doctor ordered a pharmacogenomic test to determine if Ms. Jefferson has any DNA changes that impact how she responds to Simvastatin (common name Zocor).

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The Outcome

The pharmacogenomic test found that Ms. Jefferson is predicted to be a poor metabolizer of simvastatin based on changes in her SLCO1B1 gene. Poor metabolizers may have a build-up of Simvastatin, which can cause muscle break down. Her doctor orders a creatine kinase (CK) level to check for muscle breakdown, and it comes back elevated, indicating she is having adverse side effects. Based on this, Ms. Jefferson's doctor decides to reduce her Simvastatin dose and monitor for CK level along with her lipid levels.

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