

# NEW RESEARCH SHOWS ABBOTT'S HIGH SENSITIVE TROPONIN TEST FIRST TO MEASURE IMPACT OF MENTAL STRESS ON THE HEART

- New data presented at the American College of Cardiology shows that patients who develop stress-induced ischemia (inadequate oxygen flow to the heart) have higher levels of troponin,(1) which are associated with worse long-term outcomes(2)

- Doctors could eventually use this information to prevent serious complications from developing by helping patients to better manage stress

ABBOTT PARK, Ill., April 4, 2016 /PRNewswire/ -- The stresses of life have long been thought to increase a person's risk of heart disease.<sup>3</sup> But the question remains how to measure the impact of different types of stress on the heart. Now, new research conducted at Emory University shows that Abbott's ARCHITECT *STAT* High Sensitive Troponin-I (hsTnI) test may detect whether stress –mental and physical – leads to an inadequate oxygen supply to the heart among people with coronary artery disease.<sup>1</sup>

Results from clinical trial data presented at the American College of Cardiology 65<sup>th</sup> Annual Scientific Session show that patients developing stress-induced ischemia (inadequate oxygen flow to the heart) are likely to have high levels of troponin, a protein that at increased levels can indicate injury to the heart.<sup>1</sup> Over time, if there is a mismatch in oxygen flow to the heart, there is the potential to damage the muscle and lead to serious health issues, such as heart attack, heart failure or even death.<sup>4</sup> High sensitive troponin tests, including Abbott's ARCHITECT *STAT* High Sensitive Troponin-I (hsTnI) test used in this study, are commercially available outside of the United States and in development in the United States.

"We've always believed that stress can be harmful to cardiac health. We now show that this harm is also reflected by elevated levels of circulating troponin," says lead study author Dr. Arshed A. Quyyumi, M.D., professor of medicine, Division of Cardiology at Emory University School of Medicine, and co-director of the Emory Clinical Cardiovascular Research Institute. "With this study, for the first time doctors have a way to measure the impact of ischemia with a high sensitive troponin test. Because we and others have shown that a higher circulating level of troponin is associated with worse long-term outcomes, such as heart attack or even death, doctors may eventually use this information to prevent serious complications from developing."

## ABOUT THE STUDY<sup>1</sup>

Researchers from Emory University used myocardial perfusion imaging – a noninvasive method of assessing blood flow to the heart – to evaluate 587 patients with coronary artery disease (CAD). Patients received both mental stress testing, which involved a public speaking task, and conventional (pharmacologic or exercise) stress testing. Their troponin levels were measured with Abbott's high sensitive test at rest, 45 minutes and 90 minutes after the mental stress test, and 30 minutes after conventional stress testing.

After adjusting for traditional CAD risk factors, the study showed that 16.0 percent and 34.8 percent of patients developed ischemia (inadequate oxygen flow to the heart) during mental and conventional stress, respectively. Previous studies have shown that patients who have developed ischemia, either during mental or conventional stress, had worse long-term outcomes.

"Until now, doctors have never had a way of measuring the impact of stress on the heart so that we have the necessary information to begin to address the problem," says Agim Beshiri, M.D., senior medical director of diagnostics, Abbott. "By using Abbott's high sensitive troponin test, now doctors may have objective information to better treat their patients – helping to prevent or treat additional cardiac issues that could result from stress – and get them back to doing the things they love."

## ABOUT CORONARY ARTERY DISEASE

Coronary artery disease (CAD)—also called coronary heart disease or simply heart disease—is the most common type of heart disease and the leading cause of death in the world.<sup>5</sup> CAD occurs when there is a buildup of plaque in the arteries that supply blood to the heart.<sup>4</sup> As this buildup grows, there is an inadequate flow of oxygen-rich blood to the heart, causing damage to the muscle and potential complications, such as a heart attack.<sup>4</sup> For the millions of adults affected by CAD worldwide,<sup>5</sup> lifestyle changes, medicines and medical procedures may help prevent or treat the disease.<sup>4</sup>

## ABBOTT'S CARDIAC TROPONIN TESTS

Abbott is committed to developing diagnostic testing solutions for both the emergency department and lab setting that can improve patient care. Examples of this include Abbott's tests to measure troponin, a protein that can indicate injury to the heart muscle. These troponin tests are important innovations intended to aid physicians in the care of patients with chest pain. Some of the areas that Abbott is investigating for the use of its

troponin tests include: the under-diagnosis of women with suspected heart attacks, clinical oversight of patients with cardiovascular disease, and the streamlining of patient care by ruling heart attacks in or out faster. The ARCHITECT STAT High Sensitive Troponin-I (hsTnI) test is run in a lab setting. The cardiac troponin-I (cTnI) test is run at a person's side, with Abbott's i-STAT, which is a handheld, portable device used to perform a broad range of blood tests.

Abbott's ARCHITECT STAT High Sensitive Troponin-I (hsTnI) test is commercially available outside of the United States. The test is in development in the United States. Abbott's i-STAT cardiac troponin-I (cTnI) test is available worldwide.

### About Abbott

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### References

1. Hammadah M, Al Mheid I, Wilmot K, Ramadan R, Alkhoder A, Awad M, Obideen M, Abdelhadi N, Fang S, Bouchi Y, Levantsevych O, Kelli HM, Topel M, Pimple PM, Hosny K, Murrah N, Raggi P, Shah AJ, Garcia E, Vaccarino V, Quyyumi A. High sensitivity cardiac troponin I is associated with mental and conventional stress induced myocardial ischemia. Emory University oral poster presentation at the 2016 American College of Cardiology Meeting.
2. Thygesen K, Alpert JS, Jaffe AS, et al. Third universal definition of myocardial infarction. European Heart Journal. 2012; 33:2551-2567.
3. Stress and heart health. American Heart Association. Website: [http://www.heart.org/HEARTORG/HealthyLiving/StressManagement/HowDoesStressAffectYou/Stress-and-Heart-Health\\_UCM\\_437370\\_Article.jsp#.VvQVXNirKUK](http://www.heart.org/HEARTORG/HealthyLiving/StressManagement/HowDoesStressAffectYou/Stress-and-Heart-Health_UCM_437370_Article.jsp#.VvQVXNirKUK)
4. Coronary heart disease. National Institutes of Health: National Heart, Lung, and Blood Institute. Website: <http://www.nhlbi.nih.gov/health/health-topics/topics/cad>.
5. Cardiovascular diseases. Fact sheet 317. World Health Organization. Website: <http://www.who.int/mediacentre/factsheets/fs317/en/>.

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