

Atrial fibrillation increases risk of only 1 type of heart attack

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Heart Attack

Myocardial Infarction or Heart Attack. Credit: Blausen Medical Communications/Wikipedia/CC-A 3.0

Refining the results of a 2013 study, researchers have found that atrial fibrillation, or irregular heartbeat, is associated with only one type of heart attack - the more common of the two types.

The study, led by Elsayed Z. Soliman, M.D., director of the Epidemiological Cardiology Research Center at Wake Forest Baptist Medical Center, is published in the April 27 issue of the American Heart Association journal *Circulation*.

Atrial fibrillation, or a-fib, is the most prevalent heart rhythm disorder, affecting as many as 6 million Americans, and has long been known to be a risk factor for stroke. The 2013 study led by Soliman was the first to show that a-fib also increased the risk of heart attack, by 70 percent overall and by even higher rates in women and African-Americans.

The new study sought to shed light on the mechanisms underlying the [atrial fibrillation](#)-heart attack link by examining the association between a-fib and the two types of heart attack. To accomplish this, Soliman and his team reviewed the histories of 14,462 people who were part of the Atherosclerosis Risk in Communities (ARIC) study, a National Heart, Lung and Blood Institute-funded research project that began in 1987 and included follow-up through 2010. Their investigation not only confirmed that atrial fibrillation increased the risk of heart attack - by 63 percent overall, with a higher rate in women - but also determined that this association was limited to the type of heart attack known as NSTEMI.

Heart attacks are divided into two types according to the severity of cardiac muscle damage. NSTEMI (non-ST segment elevation myocardial infarction) is the less severe type, occurring when a blood clot partly clogs a [coronary artery](#) and only a portion of the [heart muscle](#) supplied by that artery is damaged. A STEMI (ST segment elevation myocardial infarction) heart attack happens when an artery is completely blocked by the blood clot, which causes damage to virtually all of the heart muscle supplied by that artery. Of the approximately 735,000 heart attacks recorded in the United States each year, roughly two-thirds are NSTEMI.

Soliman said the finding that atrial fibrillation was associated only with NSTEMI heart attacks suggests that factors contributing to partial blockage of the coronary arteries or increased oxygen demand, such as sudden increase in heart rate, are more likely to explain the association between a-fib and heart attack than those factors linked to total blockage caused by the migration of a blood clot to a coronary artery from the site of its formation.

"These results have important implications for management of the risk of [heart attack](#) in people with atrial fibrillation," Soliman said. "For example, blood thinners that are commonly prescribed to people with a-fib to prevent stroke may not be as effective in preventing heart attacks in this population."

Provided by Wake Forest University Baptist Medical Center

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