Medical Xpress

High-intensity statins linked to better survival rates of cardiovascular patients

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A large national study has confirmed the value of high-intensity statin treatments for people with cardiovascular disease, according to researchers at the Stanford University School of Medicine.

Over the duration of a year, the researchers found that patients taking high-intensity statins had an increased chance of survival over those on moderate-intensity statins. The study will be published online Nov. 9 in *JAMA Cardiology*.

Statins, a class of drugs that lowers cholesterol levels in the blood, are commonly prescribed for preventing the acceleration of cardiovascular disease caused by the buildup of plaque in the arteries, which can lead to heart attacks and stroke.

Health-care providers have long debated the benefits of prescribing high-intensity statins to their patients with cardiovascular disease. Patients, in turn, have been hesitant to take them because of equivocal messages from their doctors and internet searches of patient and doctor perspectives.

"Previously, there was definitely a certain amount of fear on the patient's part because most people don't like taking medication," said Paul Heidenreich, MD, professor of cardiovascular medicine and the study's senior author. Some studies have shown an increased risk of side effects, such as diabetes or muscle damage, associated with higher-intensity statins.

Conflicting recommendations

In 2013, the American College of Cardiology and American Heart Association jointly recommended high-intensity statin therapy for patients with atherosclerotic cardiovascular disease who were no older than 75. The ACC/AHA guidelines differed, however, from guidelines established in 2014 by the Veterans Affairs Health Care System, which recommended only moderate-intensity statins, noting the lack of conclusive evidence that higher-intensity statins are more beneficial than those of moderate intensity.

In their study, Heidenreich and his team found evidence to support the ACC/AHA guidelines. They determined that high-intensity statins do in fact increase rates of survival, not only in younger and middle-aged patients with cardiovascular disease, but also in a patient population not well-studied: adults over 75.

"The greatest strength of this study is that we used a very large, well-defined clinical cohort," said Fatima Rodriguez, MD, a cardiology fellow at Stanford and the study's lead author. "The results show that high-intensity statins confer a survival advantage for patients with cardiovascular disease, including older adults."

Large sample size reduces possibility of chance

The researchers studied the medical records of 509,766 patients across the country receiving care from the Veterans Affairs Health Care System. "This is a very large patient population rich in cardiovascular disease," said Rodriguez. "In addition to defining this large, national patient population, we also had access to their detailed clinical data, including comorbidities and cholesterol values."

The primary purpose was to look at overall patient death rates from 2013 to 2014, the researchers said. They included patients with coronary artery disease, cerebrovascular disease and peripheral artery disease. "These are basically the three main areas affected by plaque buildup—the heart, the brain and the large arteries of the rest of the body," Heidenreich said.

Patients were taking high-intensity, moderate-intensity or low-intensity statins in many different but commonly prescribed forms, such as rosuvastatin and atorvastatin. The researchers also followed one group that wasn't taking any statins. Patients had different severities of cardiovascular disease, making some more likely to be prescribed higher-intensity statins than others. So the researchers assigned each patient a score for the propensity to receive high-intensity statins and adjusted the results of the study accordingly.

The results showed a 9 percent increased chance of survival for patients taking high-intensity statins compared to those receiving moderate-intensity treatments. "We found basically the same risk reductions reviewed by the Veterans Affairs guidelines, but they didn't think the benefit was significant because the sample size was small," Heidenreich said. "We have so many more patients, we can be confident that it wasn't due to chance."

Examining specific patient groups

The study considered data from patients over 75—a group little studied in clinical trials. It found that patients between the ages of 75 and 85 taking high-intensity statins had a survival-rate benefit comparable to that of younger patients: a 9 percent higher chance of survival compared to those on moderate-intensity statins.

"Our results suggest that clinical trial data from heart studies for those

younger than 75 could also be applied to this older population," Heidenreich said.

Finally, they studied the effect of different doses within the high-intensity statin group. Patients treated with the maximum dose of statins were 10 percent more likely to survive than patients on submaximal doses. "This suggests to practitioners that instead of starting a patient on a low dose, just to go ahead and put them on the maximum dose they can tolerate," Rodriguez said.

A limitation of the study was that the researchers were unable to determine whether patients died of cardiovascular disease or another cause.

Settling the debate

The next step, researchers said, is to find out why some patients who should be on high-intensity statins are not. They hope doctors will take their study's results into consideration when prescribing statins. "There are a lot of guidelines and recommendations out there, so I think we also have to make the system better," Rodriguez said. "Maybe hospitals can employ a clinical reminder to doctors, a message that pops up on the doctor's screen that asks why a cardiovascular patient isn't on a high-intensity statin."

The researchers also hope to follow up on longer-term data from these patient populations. "Not only do we hope to continue studying this population, but we also hope to study patients without prior cardiovascular disease but who are at high risk for it," said Rodriguez.

Finally, they hope these results will help to settle the debate on which guidelines doctors should use when prescribing statins to patients. Heidenreich said, "We think this should give clinicians, physicians and

nurse practitioners more comfort in following the American College of Cardiology and American Heart Association guidelines and putting people with prior cardiovascular disease on a high-intensity statin."

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