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Ventricular tachycardia reduced in patients with defibrillators

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Credit: University of Rochester Medical Center

A drug approved to treat chest pain reduces the incidence of a common arrhythmia called ventricular tachycardia in patients with an implantable cardioverter defibrillator (ICD), according to a study presented today at the Heart Rhythm Society's annual meeting.

Individuals with ICDs are at high risk of arrhythmias, irregular heart rhythms that are associated with increased hospitalizations and death. Ranolazine, a chest pain drug marketed as Ranexa, reduced the likelihood of experiencing ventricular tachycardia – an abnormally fast heart rhythm – by 27 percent. It also decreased the risk of recurrent episodes of ventricular tachycardia by 35 percent. The findings are important because ventricular tachycardia can lead to ventricular

fibrillation, an even faster and more dangerous rhythm that can trigger cardiac arrest and death.

Lead study author Wojciech Zareba, M.D., Ph.D., professor of Cardiology and director of the Heart Research Follow-Up Program at the University of Rochester Medical Center, says no new anti-arrhythmic drugs have been developed in the past 25 years, leaving patients with few options.

"Physicians can prescribe beta blockers to slow the heart rate, but they don't provide enough protection for high-risk individuals; and currently available anti-arrhythmic drugs aren't always used long-term due to negative side effects," noted Zareba, an international expert on heart rhythm disorders. "We found that ranolazine has a positive effect on the risk and frequency of ventricular arrhythmias and we should encourage physicians to use it for prevention."

Zareba's team enrolled 1,012 ICD patients, average age 64 years, in a randomized clinical trial conducted at 95 sites in the U.S. and Canada. Participants were randomly assigned to receive ranolazine (510 participants) or placebo (502 participants) and were followed for approximately two years.

Ranolazine did not reduce the risk of death or the risk of ventricular tachycardia or ventricular fibrillation that required ICD shock, which is a strong burst of energy delivered to the heart to correct particularly fast and potentially fatal rhythms. The drug was associated with a significant reduction (27 percent) in ventricular tachycardia that required ICD pacing: pacing provides mild spurts of energy to the heart to break less fast, but still dangerous rhythms. Recurrent ventricular tachycardia that necessitated pacing was reduced by 35 percent.

Side effects of the drug were very infrequent and generally mild, and

included dizziness, nausea, constipation and vomiting.

"Through this significant study, ranolazine has proven to be an important medication for patients at very high risk of life-threatening arrhythmias, especially those who don't respond well or can't tolerate the side effects of traditional medications that treat heart rhythm abnormalities," said David T. Huang, M.D., director of UR Medicine Heart & Vascular Electrophysiology at Strong Memorial Hospital. Huang worked with Zareba on the planning and execution of the study and led a team that reviewed arrhythmia data from all participants.

Provided by University of Rochester Medical Center

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