Medical Xpress

Loyola testing new device for treating Atrial Fibrillation

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Loyola University Medical Center is testing a high-tech catheter device that's intended to improve outcomes of patients treated for atrial fibrillation, the most common irregular heartbeat.

The treatment, called catheter ablation, involves burning selected spots of tissue inside the heart. This eliminates the sources of errant electrical signals that are triggering the atrial fibrillation.

In a-fib, electrical signals that regulate the heartbeat become erratic. Instead of beating regularly, the upper chambers of the heart quiver. Not all the blood gets pumped out, so clots can form. A-fib can lead to strokes and heart failure.

Loyola is participating in a multicenter clinical trial of a new pressure-sensing catheter. The device tells the physician the precise direction of the catheter and how hard it is pushing against the heart wall. This information is graphically displayed on a 3-D mapping and navigation system.

The investigational device is called the SmartTouch® Contact Force Sensing Catheter. In the clinical trial, patients who undergo ablation with the pressure-sensing catheter will be compared with a group of similar patients who have undergone ablation with conventional catheters.

Principal investigator at the Loyola site is Dr. David Wilber, one of the nation's leading researchers in catheter ablation. Wilber is director of

Loyola University Chicago Stritch School of Medicine's Cardiovascular Institute and medical director of Clinical Electrophysiology.

Atrial fibrillation patient Gregg Sunday of Naperville, Ill., was among the first Loyola patients to participate in the clinical trial of the pressure-sensing catheter. Atrial fibrillation caused an unsettling feeling in Sunday's chest and left him easily winded during physical activity. Medications initially controlled the condition but became less effective.

Sunday, 51, underwent ablation on a recent Thursday. He spent one night in the hospital and was back at work the following Monday. His heart rhythm has returned to normal and he will be able to taper off his medications.

"I'm so happy I was able to participate in this clinical trial," he said.

More than 2 million Americans have atrial fibrillation, also known as a-fib. There are about 160,000 new cases each year. The number is increasing due in part to the aging population and the obesity epidemic.

A-fib symptoms include heart palpitations, dizziness, chest pain, fatigue, shortness of breath, fainting and lightheadedness. "A lot of people are disabled," Wilber said. "They have no energy. They can't work. They have a very poor quality of life."

Medications can maintain a normal heart rhythm. But when drugs don't work or cause unacceptable side effects, alternative treatments include surgery or catheter ablation. While drugs have been available for more than 30 years, ablation is a relatively new treatment.

In the ablation procedure, an electrophysiologist inserts a catheter (thin flexible tube) in a groin artery and guides it through blood vessels to the heart. The tip of the catheter delivers radiofrequency energy that heats

and destroys tissue that sends out erratic electrical signals.

The challenge is to press the catheter firmly enough against the wall of the heart so that sufficient tissue is destroyed, without pushing so hard that the catheter punches a hole in the heart.

"This requires a very fine balance, which is difficult to achieve, even for an experienced operator," Wilber said. "The pressure-sensing catheter, if proven safe and effective, potentially could improve patient outcomes and the durability of ablation treatments."

Provided by Loyola University Health System

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