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ON-X Heart Valve Shows Safety With Reduced Blood Thinners

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April 5, 2011

ON-X HEART VALVE SHOWS SAFETY WITH REDUCED BLOOD THINNERS

Early Data Reported From Large FDA IDE Clinical Trial is Encouraging

New Orleans, LA – Patients with a mechanical heart valve need lifelong treatment with blood-thinning drugs like warfarin − anticoagulants that prevent blood from clotting on the man-made material but also create a risk of bleeding. Preliminary data show promising results for a regimen that may reduce the risk of bleeding by reducing the amount of warfarin therapy below now-standard levels in patients who have an On-X® heart valve, according to research from an Investigational Drug Exemption (IDE) study presented today at the American College of Cardiology's 60th Annual Scientific Session. ACC.11 is the premier cardiovascular medical meeting, bringing together cardiologists and cardiovascular specialists to further advances in cardiovascular medicine.

"Tissue valves don't need anticoagulants and thus are preferred for older patients," said John D. Puskas, M.D., associate chief in the Division of Cardiothoracic Surgery, Emory University School of Medicine, Atlanta, Georgia, and international principal investigator of the PROACT study. "But tissue valves can wear out, exposing patients to the risks of another surgery. Although mechanical valves are durable, they require anticoagulants, which have risks of bleeding with too much or clotting with too little and must be monitored monthly. Our goal is to maintain patients with this type of mechanical valve on a safer and more convenient regimen that's closer to the benefits of biological valves."

The On-X valve was developed to reduce the need for anticoagulants through improvements in design and material. A bileaflet, or "butterfly" style, it has two half-circle valves that pivot open and closed, and a unique inlet flare that maximizes blood flow. On-X is the only valve made of pure carbon, which produces a smoother polished surface than any other valve material. The smoother the surface, the less likely blood is to clot on it.

This 40-center study is scheduled to end in 2015 after enrolling 1,000 patients and following them for five years. Patients are divided among three categories: aortic valve replacement (AVR) at low risk for a vessel-blocking blood clot; AVR at high risk for blood clots; or mitral valve replacement (MVR). All patients receive standard warfarin therapy for three months after valve surgery. Standard warfarin therapy is the amount needed to

achieve the standard international normalized ratio (INR), a number that represents clotting time. The higher the INR number, the thinner the blood. Because warfarin is highly variable across patients, there is no one standard dose to produce the standard INR level. The current standard INR range for patients with a mechanical heart valve is 2.0−3.5, depending on the position of the valve implant.

After the first three months, patients were randomly assigned to a control group (81-mg baby aspirin plus standard warfarin therapy) or to one of three treatments that reduced or eliminated warfarin, the most commonly prescribed anticoagulant. The low-risk AVR group was treated with a no-warfarin regimen (325 mg aspirin +75 mg clopidogrel). The high-risk AVR group had the lowest warfarin level (baby aspirin + warfarin to an INR target of 1.5−2.0). The MVR group also received reduced warfarin (baby aspirin + warfarin to an INR target of 2.0−2.5). Aspirin, clopidogrel and warfarin all have anticoagulation properties but work in different ways to prevent blood clots.

Interim results are available for the high-risk AVR patients, the only treatment arm that is fully enrolled and closed. In that arm the test group had 185 patients with 247 patient-years of follow-up, and the control group had 190 patients with 257 patient-years of follow-up (patient-years are the number of patients multiplied by their number of years in the study). Results to date suggest that this approach is at least as safe as standard warfarin therapy. Nine patients died: five in the test group and four in the control group. The test group had 2.5 bleeding events/patient-year vs. 4.4/patient-year for the control group, and a stroke rate of 1.3 percent/patient-year vs. 0.4 percent/patient-year for the control group. For the combined endpoint of stroke, clots and bleeding event, rates were 9/patient-year (3.8 percent) for the test group and 12/patient-year (4.9 percent) for the control group. By the time the study ends, 6,000 patient-years of data will be available.

“The data so far are encouraging, and I think the other study arms are likely to show similar findings,” Puskas said. “If final data confirm these early results, the FDA may grant a label for lower doses of anticoagulation drugs, and Emory and other institutions will report long-term outcomes. One day we may be able to offer a durable mechanical heart valve with no blood thinner in selected patients.”

The study was funded by On-X Life Technologies, Inc., with technology support from Clinipace, Inc. Puskas has no financial relationship with either company.

Dr. Puskas will be available to the media on Tuesday, April 5, at 12:30 p.m. CDT, in Room 338/339.
Dr. Puskas will present the study, “Reduced Anticoagulation for a Mechanical Heart Valve,” on Tuesday, April 5, at 10:45 a.m. CDT, in the Joint Main Tent: La Nouvelle.

The American College of Cardiology (www.cardiosource.org) represents the majority of board-certified cardiovascular care professionals through education, research, promotion, development and application of standards and guidelines – and to influence health care policy. ACC.11 is the largest cardiovascular meeting, bringing together cardiologists and cardiovascular specialists to share the newest discoveries in treatment and prevention, while helping the ACC achieve its mission to address and improve issues in cardiovascular medicine.
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