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Jefferson Aortic Center Targets ‘Silent Killers’ with Individualized Care, Innovative Research

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Surgical Solutions

Jefferson Aortic Center Targets 'Silent Killers' with Individualized Care, Innovative Research

Jacqueline McGee, CRNP, and Konstadinos Plestis, MD, in the shared reception area for the Aortic Center, Angioplasty Center, and Vascular Center at 111 S. 11th Street in Center City.

The experience of 79-year-old Jane Collins illustrates the unique challenges of diagnosing and treating aortic disease. Her experience also demonstrates the value of the Jefferson Aortic Center – one of only a few in the nation to provide this complex care at a high volume.

Like an estimated 95% of people with aortic disease, Collins had no symptoms, and her diagnosis was incidental. An X-ray to explore back pain revealed that she had an abdominal aortic aneurysm, an enlarged area in the lower part of the aorta. Jefferson vascular surgeons determined that the abdominal aneurysm was too small to require intervention at that time and referred her to a cardiologist. The cardiologist performed an echocardiogram that uncovered an even more urgent issue: a large thoracic aortic aneurysm in her ascending aorta. This weakened area in the upper part of this vital blood vessel measured 8.1 cm and put Collins at high risk of dissection (a tear in the lining of the aorta) or rupture (breakage of the vessel). A subsequent CT scan revealed a third aneurysm measuring 5.5 cm in the descending thoracic aorta.

In late September 2021, Collins came to the Jefferson Aortic Center. In less than a week, Konstadinos A. Plestis, MD, who directs the center, operated on the 8.1 cm aneurysm in Collins' ascending aorta and aortic arch, which is in the front of the chest. This complex, open surgery requires the surgeon to remove the enlarged blood vessel, replace it with a synthetic tube and reimplant the arch vessels into the tube graft so they can supply blood to the brain and arms.

Several months later, Paul J. DiMuzio, MD, who leads the Division of Vascular and Endovascular Surgery, inserted a stent graft to repair the smaller 5.5 cm descending thoracic aortic aneurysm through a small incision in her groin. These aneurysms are in the back of the chest and can cause back pain—her initial complaint. The team will continue to monitor the small abdominal aortic aneurysm closely.

"This kind of collaboration epitomizes the Jefferson Aortic Center," Dr. Plestis says. "We are a destination center for comprehensive, individualized patient care and a focal point for research and education."

Offering patient care in both Center City, Philadelphia and Abington, Penn., the Center collaborates with cardiothoracic surgery, vascular and endovascular surgery, cardiology, interventional cardiology, radiology, genetics, intensivists and other specialties.

Dr. Plestis explains that most patients with aortic aneurysms have familial thoracic aortic aneurysm disease (that is, the disease is present in more than one first-degree relative). For these patients, the Center can recommend genetic evaluation of family members to help assess their risk. The Center also focuses on patients with Marfan syndrome, a congenital condition in which patients are born with faulty connective tissue that can weaken the aorta and need care starting at a relatively young age. He adds that with some patients, there is no clear-cut etiology; they simply develop an aortic aneurysm.

"Aortic aneurysms and ruptures are often called the 'silent killers' because they aren't usually identified until the late stages of disease," Dr. Plestis continues. "We're developing the infrastructure necessary to identify aortic conditions sooner, so that patients can undergo the least invasive interventions possible."

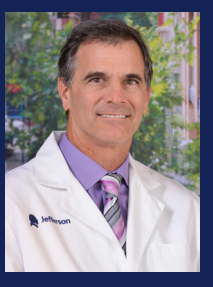
Patients are referred to the Jefferson Aortic Center by cardiologists, primary care physicians and other physicians who find aneurysms through echocardiograms, X-rays, CT scans and other tests. Where appropriate, patients are scheduled for minimally invasive surgery. When an aneurysm is too small to need surgical correction, the patient is followed by the Center's nurse practitioner, Jacqueline McGee, and physician assistant, Colin King. They monitor the size of a patient's aortic aneurysm, among other parameters, so the Center can intervene as soon as possible.

Although Collins required open surgery due to the size and complexity of her thoracic aortic aneurysm, the Center is performing more than 70% of surgeries using minimally invasive techniques. The Center also conducts research on minimally invasive techniques for complex aortic cases and shares findings at national meetings and in peer-reviewed journals.

The Jefferson Aortic Center is also part of the International Registry of Acute Aortic Dissections (IRAD), which collects data from 30 large referral centers in 11 countries to improve operative and post-operative care of people with these complex conditions.

For more information or to make an appointment, please visit ***JeffersonHealth.org/AorticCenter***.

"Our (Vascular Surgery) collaboration with Cardiothoracic Surgery in the setting of the Aortic Center extends farther than the two services. We regularly work side-by-side with world-class Vascular Medicine specialists, Structural Interventional Cardiologists and heart failure specialists to provide innovative and individualized care to patients with aortic diseases. Our collaboration now extends across the Atlantic Ocean, as we are actively developing our relationship with the cardiovascular services at the world-famous Gemelli Hospital in Rome."



Paul J. DiMuzio, MD

William M. Measey Professor of Surgery

Director, Division of Vascular and Endovascular Surgery

Co-Director, Jefferson Vascular Center

In this issue