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# Two Studies Find Nonsurgical Treatment for Thoracic Aorta Repair Should Be First Line of Care

Interventional Radiology Stent-Graft Offers Less Than Two Percent Risk of Paralysis Compared to Ten Percent with Surgery

Seattle, Washington (March 2, 2007) – According to two studies presented today, a nonsurgical treatment using stent-grafts to repair an injured or diseased thoracic aorta offered patients less risk of paraplegia as well as lower morbidity and mortality rates when compared to surgery. During surgical repair the patient is at increased risk of paraplegia because the thoracic aorta is clamped, cutting off blood to the spinal column. The interventional radiology treatment does not interrupt the blood supply because the endograft is advanced inside the artery, using imaging to guide it from the femoral artery in the groin to the precise location in the aorta where it is deployed to create a new wall in the aorta from the inside.

The London study involved 190 patients in a prospective database from 1997 to 2006. All patients had diseased aortas in the thoracic area, such as degenerative aneurysm, dissections, ulcer, and other pathology. In the second study, coming out of a major trauma center in Canada, all of the patients were healthy without an underlying disease, but had suffered a violent life-threatening injury to the thoracic portion of the aorta. Since there was no underlying pathology, it was clear in the surgical trauma group that adverse events were not due to underlying disease, and could be more clearly attributed to the procedure. In both institutions, the data strongly suggests that the interventional treatment was not only an important option to consider, but should be the treatment of choice.

The incidence of death and permanent paralysis in the London group, which only included the interventional treatment, was 1.6 percent. In the trauma study, which also included a comparison to surgery, there was a 7.4 percent incidence of pneumonia and no incidences of death or paralysis in the interventional patients. In the surgery group, there was an eleven percent incidence of death, a 15.6 percent incidence of paralysis, and a 37.5 percent incidence of pneumonia.

"Repairing a thoracic aorta should primarily be done with a stent-graft. Compared to surgery, the interventional treatment has a much lower risk of paralysis, less than two percent compared to open surgery which has approximately a ten percent risk, even in the best of hands," stated interventional radiologist John Reidy, M.D., of Guys Hospital, London, England. "Placing a stent-graft is minimally invasive and much less traumatic for the patient. They avoid general anesthesia and have less problems with infection because there is no large chest incision." Stent-graft repair is typically covered by insurance, and available in the U.S.

#### About the Studies

London Abstract 69 – 190 patients (127 men and 63 women) underwent nonsurgical thoracic aorta repair. 128 patients were treated electively and 62 underwent urgent repair. 135 patients were under regional anesthesia (epidural). The stent-grafts were successfully deployed in 99.5 percent of the cases. The incidence of death and permanent paralysis was 1.6 percent. The median follow-up was 20.4 months.

<u>Trauma Abstract 70</u> – Of the 104 patients with acutely injured thoracic aortas, 22 were dead on arrival or died during assessment. 19 patients were treated conservatively, 36 were treated surgically, and 27 received a stent-graft. Both the surgical and nonsurgical patients had similar demographics and co-morbidities. Comparatively:

	Stent-graft	<u>Surgery</u>
Death during procedure	0	11%
Paralysis	0	15.6%
Pneumonia	7.4%	37.5%
Intra-thoracic nerve damage	0	12.5%

Abstracts 69 and 70 can be found at www.SIRmeeting.org.

### **Thoracic Aorta Information**

- The aorta is the largest artery in the body—the part of the aorta that runs through the chest is called the thoracic aorta, when it reaches the abdomen it is called the abdominal aorta
- Thoracic aortic aneurysms (TAA) are life-threatening because of the occurrence of massive blood loss when they rupture
- TAA is considered a "silent killer," as only half the patients notice symptoms which include jaw, neck and upper back pain; chest or back pain; or difficulty breathing
- Of the patients who get to the hospital with a ruptured TAA, only about twenty thirty percent survive
- TAA affects approximately 15,000 people in the United States each year
- Twenty-five percent of aortic aneurysms occur in the chest
- Researchers believe that atherosclerosis, "hardening of the arteries" causes TAA

## About the Society of Interventional Radiology

Interventional radiologists are board-certified physicians who specialize in minimally invasive, targeted treatments. They offer the most in-depth knowledge of the least invasive treatments available coupled with diagnostic and clinical experience across all specialties. They use X-rays, MRI and other imaging to advance a catheter in the body, usually in an artery, to treat at the source of the disease nonsurgically. As the inventors of peripheral angioplasty and the catheter-delivered stent, interventional radiologists pioneered minimally invasive modern medicine, and provide treatments that offer less risk, less pain and less recovery time compared to open surgery. More information can be found at www.SIRweb.org.

Local interviews and medical illustrations are available through SIR's Communications Department at Emily@SIRweb.org or (703) 691-1805. ###