# Elective Repair of a Saccular Descending Thoracic Aortic Aneurysm

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A 61-year-old man originally presented with a 5.8 cm abdominal aortic aneurysm, which was repaired with an endovascular modular bifurcated system. Upon imaging for this aneurysm, a 5.6 cm saccular descending thoracic aortic aneurysm was found (Figure 1). He presented 7 months after his abdominal aortic aneurysm repair for elective repair of the thoracic aortic aneurysm.

A right groin incision was made through the prior scar, and the femoral artery was exposed. Percutaneous access was achieved to the left femoral artery, and an 8 F sheath was placed. An 8.5 Volcano IVUS probe (Volcano Corporation, San Diego, California) was advanced to the aortic arch and brought distally to the distal extent of the aneurysm, measuring the proximal and distal diameter of the aneurysm. A 14 F sheath was then placed through the exposed right femoral artery, and a pigtail catheter was advanced to the aortic arch. Angiography was performed to show the aneurysm (Figure 2). A 40 to 36 mm taper X 140 mm length Relay graft (Bolton Medical, Inc., Sunrise, FL) was chosen.

A Lunderquist curved wire (Cook Medical, Bloomington, IN) was placed through the left groin to the aortic arch, and the pigtail catheter was removed. The deployment system was advanced to the proximal abdominal aorta and was unsheathed. The deployment device was then advanced to the beginning of the descending thoracic aorta. The proximal cap and bare metal stent were released. The delivery system was recaptured and removed. The IVUS probe was advanced through the graft and showed infolding in the distal portion. A Coda balloon catheter (Cook Medical) was advanced through the sheath, and ballooning of the distal graft was performed. Upon reimaging, the infolding had resolved. Angiography after placement of the stent showed exclusion of the aneurysm without endoleak (Figure 3). The sheaths and catheters were removed. A StarClose device (Abbott Vascular, Santa Clara, CA) was used for hemostasis of the left groin puncture site. The arteriotomy in the right femoral artery was closed, and the groin was closed in layers.

The patient did well postoperatively and was discharged to home on postoperative day 1. Repeat CT scans at 1 month and 2 years (Figure 4) after the repair showed the graft in place and patent without evidence of endoleak. ■

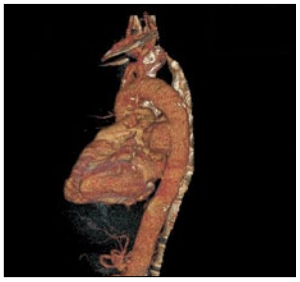

**Figure 1. Computed tomography angiogram (CTA) of the saccular descending thoracic aortic aneurysm.**

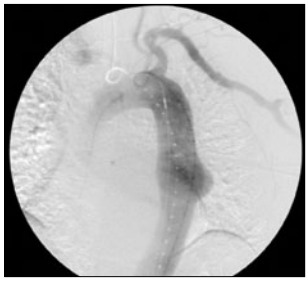

**Figure 2. Intraoperative angiography of the thoracic aortic aneurysm.**

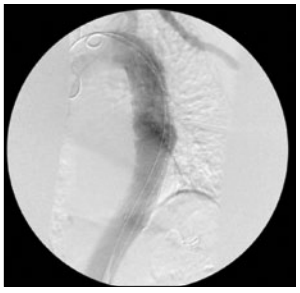

**Figure 3. Intraoperative angiography after placement of the stent.**

**Figure 4. CTA at 2-year follow-up.**

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