Case Study

Endovascular Repair of a Thoracic Aortic Aneurysm

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Patient History

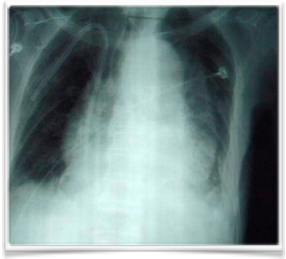
An 84-year-old female presented to her primary care physician with complaints of a cold for a week. She was already being treated for the following medical conditions:

- High blood pressure (hypertension)
- Congestive heart failure
- Coronary artery disease
- Abnormal heart beat (atrial fibrillation)
- Abnormal heart valve (mitral valve regurgitation)
- Pulmonary hypertension

Diagnosis

A chest X-ray demonstrated a widening of the aorta. [image #1] To assist in diagnosis, a CT or CAT scan which showed a 5.9cm thoracic aortic aneurysm. [image #2]

1. CXR



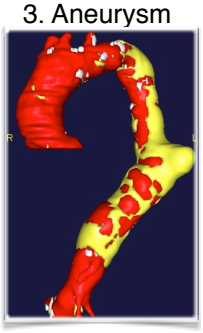
3D reconstructions of CT scan images were performed to evaluate the aortic aneurysm. [images #3 and #4]. This type of reconstruction is valuable in planning for treatment. Also, the abdominal aorta is evaluated to eliminate the possibility of another aortic aneurysm and to determine if the blood vessels in the thigh region (femoral arteries) are large enough to allow introduction of the thoracic aortic stent-graft. [image #5]

Treatment

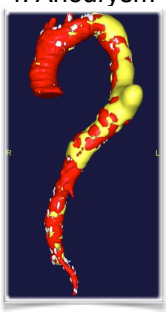
The patient underwent successful treatment of the aortic aneurysm using a thoracic aortic stent-graft, or endoluminal graft. [image #6]

2. CT Chest

3. Aneurysm

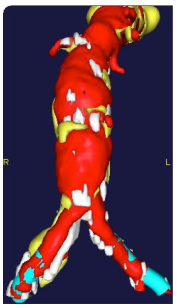


4. Aneurysm

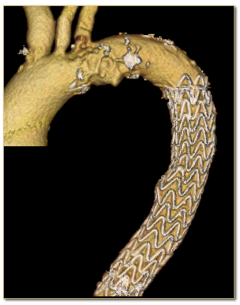


The TEVAR procedure (Thoracic Endovascular Aneurysm Repair) is a minimally-invasive procedure performed in a special operating room, called a Hybrid OR. This room contains special X-ray equipment which allows the surgeon and team to carefully insert the medical device into an artery in the thigh-region (femoral artery) and guide the aortic-stent inside the aorta and deploy within the aneurysm sac.

5. Aorta



6. Aortic stent



Follow-up

After the TEVAR procedure, a follow-up CT scan was performed to ensure that the aneurysm was completely treated. [image #7] Following the successful procedure, she returned home after 3 days in the hospital and resumed all of her normal activities after 3 weeks of recovery at home.