

Anastomotic Pseudoaneurysm at 30 Years after Thoracic Aorta Surgery

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To the Editor: We report a strategy for an asymptomatic anastomotic pseudoaneurysm that occurred 30 years after aorta surgery.

A 45-year-old male was admitted because the angiograph showed a pseudoaneurysm during an atrial fibrillation radiofrequency procedure. The patient did not have hypertension or chest pain. He had a history of thoracic aorta replacement, which was performed 30 years ago because of a coarctation of the descending aorta. Computed tomography (CT) confirmed the anastomotic pseudoaneurysm [Figure 1]. Consequently, the implantation of a stent-graft was planned to exclude the pseudoaneurysm. This procedure was performed in the catheter laboratory. Local anesthesia was used. The precise location of the leakage of the pseudoaneurysm was identified from the angiograph. A transverse arteriotomy was made on the right femoral artery. The delivery system was introduced with the super-stiff guidewire to the appropriate position. After the systolic blood pressure had been decreased to <100 mmHg, the stent-graft was deployed under fluoroscopy. A second angiograph showed that the shape of the stent-graft was satisfactory. No endoleaks and migration were observed. The patient was discharged uneventfully on the 3rd day after the endovascular procedure. A CT scan showed the absolute exclusion of the aneurysm [Figure 1] after 3 months of follow-up.

Anastomotic pseudoaneurysm is a rare complication following aorta replacement. However, this condition is life-threatening because of the high risk of rupture. This complication has a mortality rate of 61% if no intervention is performed.^[1] Its foremost cause may be the high local tension or the edematous aortic wall, which causes sutures to lacerate the aortic wall. Another possible cause is the graft infection.^[2]

The incidence rate of anastomotic pseudoaneurysm ranges from 0.5% to 15%.^[3] To date, two interventions are mainly used to manage this condition: The surgical repair and thoracic endovascular aortic repair. Surgical treatment involves the replacement of a prosthetic graft or direct repair via a redo left lateral thoracotomy. Such redo thoracotomy is extremely difficult because of the adhesion of lungs to the chest wall in the left chest cavity. The high risk of lung injury was reported for more than 30% of the patients.^[4] Meanwhile, open surgery has a high mortality rate.^[5]

Endovascular stent-grafting is a minimal invasive treatment for thoracic aortic disease. Endovascular procedures were recently



Figure 1: The anastomotic pseudoaneurysm occurred 30 years after aorta surgery and computed tomography scan showed the absolute exclusion of the aneurysm after 3 months of follow-up.

reported for the treatment of anastomotic pseudoaneurysm. Stent-grafting can be performed under local anesthesia without requiring dissection through the scars of previous operative sites. Furthermore, the blood loss, procedural time, and length of hospital stay were significantly reduced because of the minimal invasive nature of stent-grafting. However, most of the literature includes case reports, and the follow-up time was usually not sufficiently long. Therefore, the long-term outcome of this procedure needs to be observed.

In the present case, the patient underwent thoracic aorta replacement 30 years ago when he was under-aged. That is, his aorta was not yet mature. The CT scan revealed that the prosthetic graft was slightly smaller than the thoracic aorta. We performed balloon dilation after the stent-graft was deployed. Thus, the stent-graft was tightly joined to prosthetic graft and the aorta wall. We avoided redo left lateral thoracotomy and decreased the possibility of lung injury. The hospital stay was only 3 days. The outcome of the procedure was satisfactory. Our procedure is more ideal for old, fragile patients with comorbidities or for redo cases with a high risk of injury for conventional open surgery.

The patient did not have any signs of chest pain. During the first decade, after his first operation, the patient routinely had a CT scan. However, no abnormalities were found. The anastomotic pseudoaneurysm was discovered only when the patient underwent a

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transcatheter atrial fibrillation radiofrequency procedure. Therefore, the patients should receive follow-up regularly even when they feel that everything is well.

In conclusion, the stent-graft technique is safe and has low invasiveness compared with conventional open surgery. This method decreases the damage to the patient as well as reduces mortality and morbidity.

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