

# Repair of Aneurysm of the Thoracic Aorta Impending Rupture by Endovascular Stent Grafting Technique: Original Image

## Endovasküler Stent Greftleme Yöntemi ile Yırtılmaya Yakın Torakal Aorta Anevrizması Tamiri

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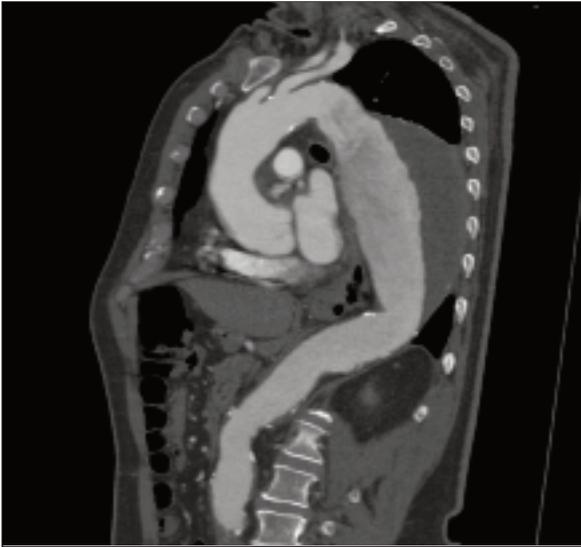
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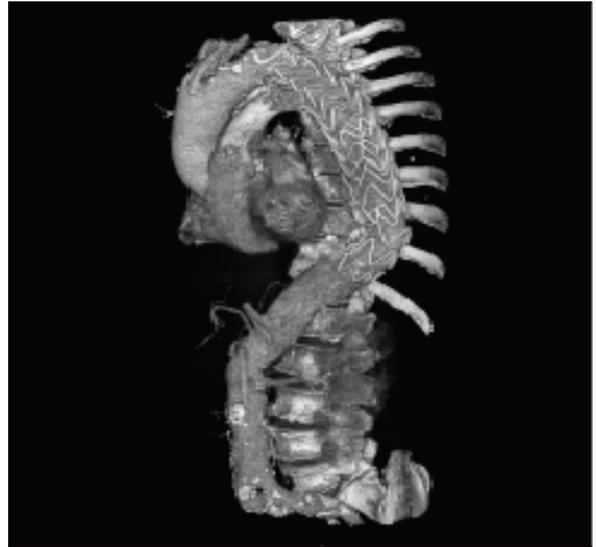
**Anahtar Kelimeler**  
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A 65 year old man with hypertension was admitted to our cardiology department with angina pectoris and back pain. At his first evaluation physical examination was normal. On X ray there was significant increase on cardiothoracic index and decrease on lung volume at the left side. On computerized tomography aortic aneurysm with mural thrombus at descenden thoracic aortic region was revealed (Figure 1). The aneurysm had started 2.5 cm distance from ostium of the left subclavian artery, ranged about 16.5 cm to distal with approximately 10.5 cm diameter. There were not any obstruction, dissection or aneurysm neither on left subclavian artery nor other aortic branches. During the follow up period there was a progressive decrease on hematocrit level on laboratory tests. With these outcomes the patient was undergone urgent endovascular aneurysm repair protocol via left and right femoral artery at the operation room under surgical conditions. After administration of 5 mg midazolam for sedation of patient, local anesthesia was applied with 5% lidocaine solutions. Guidewires were replaced with right femoral arteriotomy and left femoral puncture with Seldinger technique. At the same time a guidewire was placed into left subclavian artery via left brachial artery for marking ostium of the left subclavian artery. After preparation of the arterial lines and guidewires, an endovascular stent graft (with dimensions of 40 x 40 x 200 mm Medtronic Inc.) was placed into descenden thoracic aorta. On scopy it was revealed that the graft length was not enough, and there was still some aneurysmatic lesion on inferior part. Another graft (42 x 42 x 150 mm, Medtronic Inc. Minneapolis, Minnesota, US) was placed into the inferior part of the previous graft and across the aneurysm sac, additionally. Endoleak was not observed on scopy control. After operation left upper extremity of the the patients pulses were palpable. On computerized tomography control, stent graft image at descenden thoracic aorta region was observed without any complication (Figure 2). The patient was discharged on postoperative 5<sup>th</sup> day.



**FIGURE 1:** Aortic aneurysm with mural thrombus placed thoracic aorta.



**FIGURE 2:** Aneurysm repaired with endovascular stent grafting technique.

Up to date, treatment techniques of aortic aneurysm is controversial. Surgical correction was the only choice of safety treatment of aneurysm until last decade but nowadays endovascular treatment is an alternative technique to surgery with low morbidity range and without any complication due to surgical conditions.<sup>1</sup> Endovascular treatments are more quicker and simple, and less mor-

bid than surgical treatments, especially patients with previous cardiac surgery, concomitant other systemic diseases such as ischemic heart disease, renal or hepatic insufficiency and patients with a suspect of aortic dissection.<sup>2</sup> In this report we aim to present a patient treated with endovascular technique as an initial case of endovascular grafting technology in our department.

## REFERENCES

1. Orandi BJ, Dimick JB, Deeb GM, Patel HJ, Upchurch GR Jr. A population-based analysis of endovascular versus open thoracic aortic aneurysm repair. *J Vasc Surg* 2009;49(5):1112-6
2. Walsh SR, Tang TY, Sadat U, Naik J, Gaunt ME, Boyle JR, Hayes PD, Varty K. Endovascular stenting versus open surgery for thoracic aortic disease: systematic review and meta-analysis of perioperative results. *J Vasc Surg* 2008;47(5):1094-98.