CASE REPORT

Longest surviving case of unoperated Stanford type A aortic dissection

Opere olmamış Stanford tip A aort diseksiyonunda en uzun süreli sağ kalım olgusu

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Summary– Stanford type A aortic dissection requires urgent intervention and immediate surgical approach in the emergency department. Survival rate is low, even in patients who undergo immediate surgery. Presently described is a case of unoperated Stanford type A aortic dissection that has been in follow-up under beta-blocker treatment for 7 years. To the best of our knowledge, our case is the longest surviving patient with unoperated type A aortic dissection reported in the literature.

Özet– Stanford tip A aort diseksiyonu acil servislerde öncelikle müdahale edilen ve hızla cerrahi yaklaşım gerektiren bir acil durumdur. Kısa sürede cerrahiye giden hastalarda dahi sağkalım çok düşüktür. Burada yedi yıldır beta-bloker tedavisi altında ameliyat edilmeden takip edilen tip A aort diseksiyonlu olguyu sunmaktayız. Bilgilerimize göre, olgumuz literatürde ameliyat edilmeden en uzun süre yaşayan tip A aort diseksiyonlu hastadır.

Acute aortic dissection is a life-threatening condition with mortality rate exceeding 1% per hour.[1] Stanford type A aortic dissection has 50% mortality rate within first 48 hours if not operated.[2] Increased mortality in acute aortic dissection may be associated with additional aortic rupture, severe aortic insufficiency, myocardial ischemia, acute decompensated heart failure, renal failure, mesenteric ischemia, major neurological deficits, and cardiac tamponade.[3] There are few case reports in which patients with Stanford type A aortic dissection have survived without operation. Presently described is a case of unoperated Stanford type A aortic dissection under beta-blocker treatment for 7 years. To the best of our knowledge, this patient is the longest to survive with unoperated Stanford type A aortic dissection reported in the literature.

Abbreviation:

CT Computerized tomography

CASE REPORT

A 62-year-old man with history of congestive heart failure and hypertension was admitted to emergency department with dyspnea and pretibial edema. On physical examination, he was cool, mottled, and had cyanotic extremities. His blood pressure was 92/52 mmHg and pulse oximetry indicated peripheral oxygen saturation was 92%. S3 heart sound was heard, in addition to loud S1 and S2 during cardiac auscultation. Bilateral basilar rales were heard on pulmonary auscultation. Electrocardiogram revealed sinus tachycardia; no ST segment changes were observed. In 2009, he had been diagnosed with acute Stanford type A aortic dissection and offered emergent aortic surgery. He refused cardiac surgery and had been taking nebivolol 5mg twice a day for 7 years. Hospital records of the patient revealed 3 previous emergency department admissions.

The patient was hospitalized with acute decompensated heart failure as primary diagnosis. Transthoracic echocardiography revealed decreased left ventricular ejection fraction of 20%, and aneurysmal dilatation of ascending aorta (86 mm) with se-

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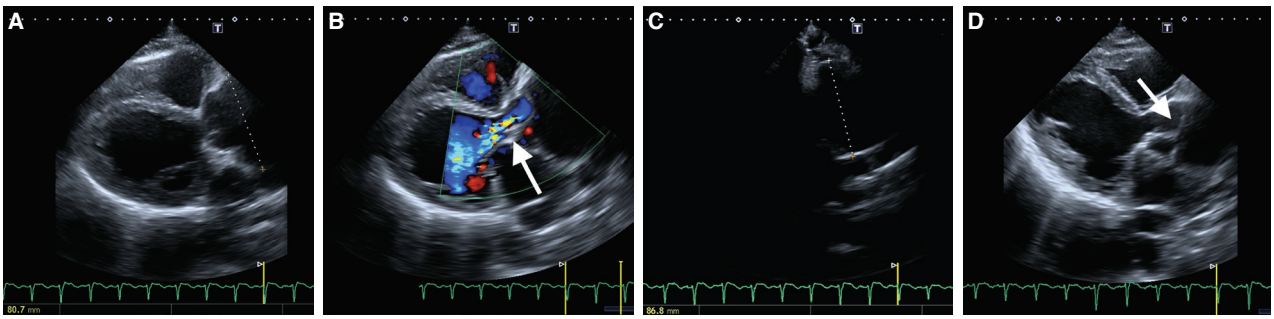

Figure 1. Transthoracic echocardiography illustrating aneurysmal ascending aorta measured at the level of dissected flap (80.7 mm) **(A)**. White arrow showing severe aortic insufficiency **(B)**, and aneurysmal ascending aorta (86.8 mm) **(C)**. Arrow indicating dissected flap located in the ascending aorta **(D)**.

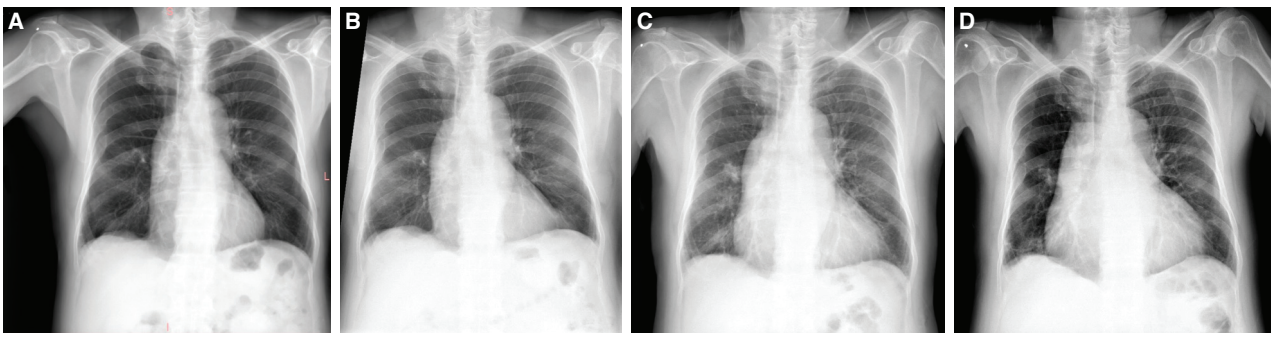

Figure 2. Chest X-rays revealing progressive increment in mediastinal diameter beginning in 2010 **(A)** through 2013 **(B)**, 2014 **(C)**, and 2016 **(D)**.

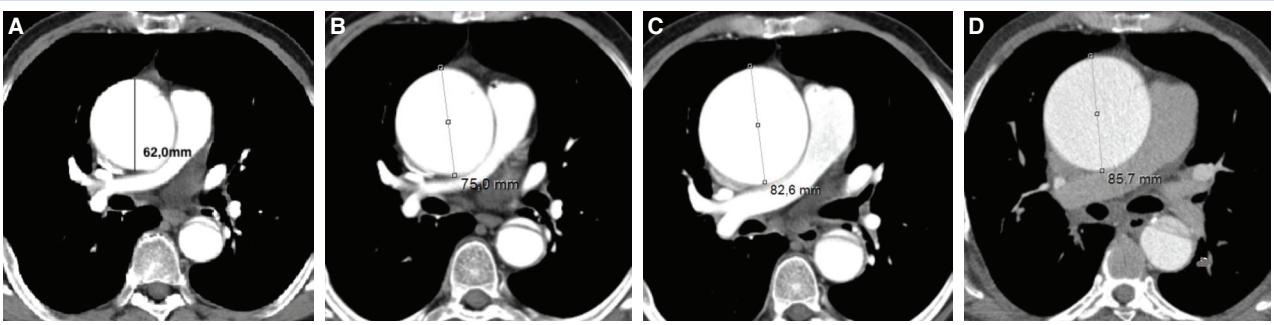

Figure 3. Contrast-enhanced computed tomography-based comparison of ascending aorta diameter in 2010 **(A)**, 2013 **(B)**, 2014 **(C)**, and 2016 **(D)**.

vere aortic insufficiency (Figure 1). Chest X-ray was compared with previous images demonstrating gradual expansion of the mediastinum throughout 7-year period (Figure 2). Contrast enhanced computerized tomography (CT) confirmed Stanford type A aortic dissection (Figure 3) and ascending aorta aneurysm of 85.7 mm in diameter, which increased in diameter over the years (Figure 4). Although there was significant increase in diameter of aneurysm, the patient was followed-up conservatively due to additional co-morbidities. He was discharged after intravenous diuretic therapy for a week.

DISCUSSION

Stanford type A aortic dissection is a cardiac emergency in which patients should undergo surgery as soon as possible. Up to age of 80 years, International Registry for Acute Aortic Dissection has proven that surgical management has better long-term outcomes

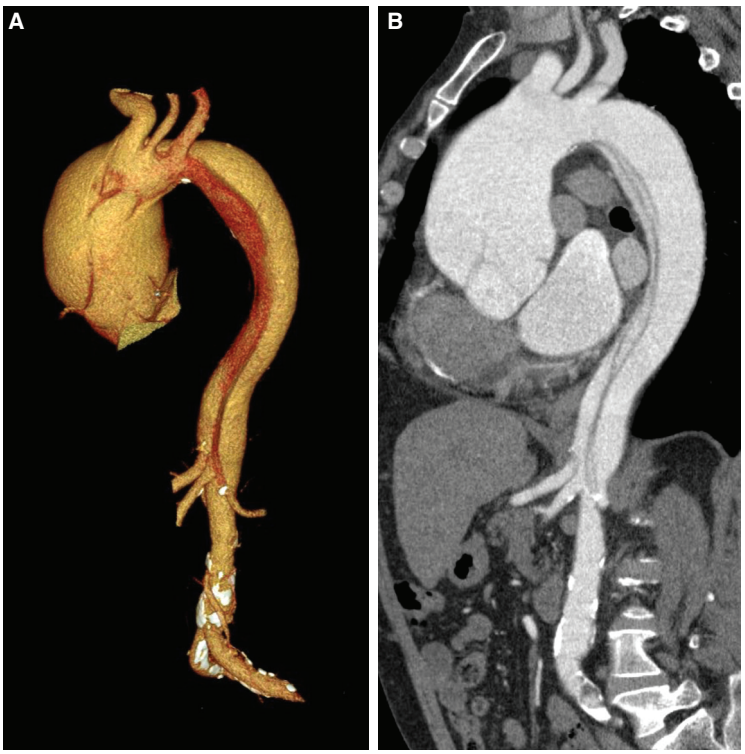

Figure 4. (A, B) Three-dimensional reconstruction images of the thoracic aorta showing Stanford type A aortic dissection.

than conservative treatment. Even in octogenarians, in-hospital mortality was lower after surgery compared with conservative treatment.[4] Surgery is only questionable in patients presenting with neurological deficits or coma. Despite poor prognosis, sufficient recovery has been reported with rapid brain perfusion. If the time period between symptoms and hospital admission is <5 hours, surgery is recommended.[5]

Almost 50% of Stanford type A aortic dissection patients die before hospital admission or are not operated on time. Mortality rate even in operated patients might be as high as 42%.[6] Both unoperated and operated acute aortic dissection survivors face chronic disease process. During follow-up, strict blood pressure control is vital and should be lower than 130/80 mmHg.[7] The diameter of the aortic aneurysm may progress over time; however, beta-blockers have been shown to reduce aneurysmal degeneration of the dissected aorta in non-randomized clinical trials.[6] Yet in present case, diameter of the aortic aneurysm progressed over years despite beta-blocker therapy. Most important and vital complication in patients with progression in aortic dilatation is risk of aortic rupture.[8]

Gennari et al. reported case of overlooked and unoperated acute Stanford type A aortic dissection with survival of 4 years[9] and Raffa et al. presented a case with incidentally detected chronic Stanford type A aortic dissection in which graft replacement surgery was successful.[10] Additionally, there is a case in the literature of acute Stanford type A aortic dissection in which spontaneous resolution of dissection was observed in a month.[11] Pathophysiological mechanism protecting these rare patients is unclear. To the best of our knowledge, our case is the longest surviving patient with unoperated type A aortic dissection in the literature. Although progression in aortic dilatation over the years was demonstrated, the patient again refused cardiac surgery because of high intra- and postoperative risks.

Conflict-of-interest: None declared.

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Keywords: Aortic dissection; computed tomography; echocardiography; Stanford type A.

Anahtar sözcükler: Aort diseksiyonu; bilgisayarlı tomografi; ekokardiyografi; stanford tip A.