Huge ascending aortic aneurysm with an intraluminal thrombus in an embolic event-free patient

VITO MAURIZIO PARATO1, EDVIN PRIFTI2,*, FRANCO PEZZUOLI1, BENEDETTO LABANTI1, ARBEN BABOCI2

1Cardiology Unit, Madonna del Soccorso Hospital, San Benedetto del Tronto, Marche, Italy
2Division of Cardiac Surgery, University Hospital Center of Tirana, Tirana, Albania
*Corresponding author: Edvin Prifti, MD, PhD; Division of Cardiac Surgery, University Hospital Center of Tirana, Rr. Dibra, 370, Tirana, Albania; Phone: +35568272458; E-mail: edvinprifti@hotmail.com

(Received: June 3, 2014; Revised manuscript received: July 8, 2014, Accepted: July 17, 2014; First published online January 5, 2015)

Abstract: We present a case of an 87-year-old male patient with a huge ascending aortic aneurysm, filled by a huge thrombus most probably due to previous dissection. This finding was detected by two-dimensional transthoracic echocardiography and contrast-enhanced computed tomography (CT) angiography scan. The patient refused surgical treatment and was medically treated. Despite the huge and mobile intraluminal thrombus, the patient remained embolic event-free up to 6 years later, and this makes the case unique.

Keywords: intraluminal thrombus, ascending aortic aneurysm

Introduction

Conservative treatment for early thrombosed aortic dissection has a better prognosis than classic type A acute aortic dissection (1). Spontaneous resolution of the thrombosed false lumen can occur during the healing process (2). We report our experience of a patient with a huge aortic aneurysm with a thrombosed false lumen who was free embolic event almost 6 years later without undergoing surgery.

Case Report

An 87-year-old male patient was admitted to our clinic complaining of shortness of breath and gastric pain. Physical examination revealed fine crackles in the bilateral lower lungs field. His blood pressure was 130/80 mmHg (equal in both arms), and heart rate was 85 beats/min in sinus rhythm. Cardiac auscultation showed a mid-systolic murmur radiating to the neck. Examination of the other organ systems was normal. The surface electrocardiogram was normal. He was not taking any medications. The posteroanterior chest X-ray displayed a widened and convex right superior mediastinum. Emergent two-dimensional transthoracic echocardiography revealed a giant ascending aortic aneurysm measuring 94 mm in transverse diameter, and aortic arch diameter was 50 mm at widest point. There was no sign of pericardial effusion or aortic regurgitation. Aneurysm level of the aortic sinuses. A huge, calcified, and tunnelled thrombus filled almost 70% of the lumen (Fig. 1, Supplementary Video 1). Descending and abdominal aorta were normal. A contrast computed tomographic scan showed an aortic diameter of 94 × 93 mm at the widest point (Fig. 2), and a thrombus area corresponding to 92% of the entire lumen area (Fig. 3). A small intimal flap is seen 5 cm over the level of the sinotubular junction. The huge and calcified thrombus inside the lumen was also detectable (Fig. 2). The patient and his family refused surgical treatment and subsequently medical treatment including blood pressure- and pulse-controlled medication, and complete bed rest during the hospital stay was employed. The clinical course under medical management was stable with both the blood pressure and pain well-controlled. Surprisingly, the patient was stroke/embolic event-free...
and his brain computed tomography (CT) demonstrated mild cerebral atrophy only. Six years after the diagnosis, he is still alive and in good health and the aortic aneurysm remained in similar dimensions in repetitive echocardiographic examinations.

Discussion

Ascending aortic aneurysms, defined as aneurysms greater than 9 cm in diameter (3), are rare (1, 8) with an increased incidence in patients with Marfan syndrome. Adult-type Pompe’s disease (glycogen storage disease type II) has rarely been shown to present with arteriopathy (4) such as huge ascending aorta aneurysm, suggesting potential smooth muscle cells involvement in addition to lysosomal glycogen deposits usually restricted to skeletal muscle tissue. A large ascending aorta aneurysm may be caused by a severe stenosis of aortic arch (5). In the absence of these diseases, like our patient, a huge ascending aortic aneurysm is very rare.

Surgical treatment is difficult and traditionally carries a high mortality rate in elderly patients (6, 8). The aneurysm is usually excised and replaced with a woven Dacron tube graft. Early surgical referral and careful postoperative care are factors which significantly reduce morbidity and mortality (7).
The optimal treatment for early thrombosed type A aortic dissection has been an issue of much debate. The surgical treatment is indicated for patients with cardiac tamponade, aortic regurgitation, large ascending aorta (>50 mm), and thick thrombosed false lumen (>11 mm). In our case, the patient and his family refused to undergo surgery. While the patient had a large ascending aorta with a diameter of 94 mm, the advanced age of the patient, more than 85 years, we proceeded with medical therapy because of the stable hemodynamics with neither cardiac tamponade nor aortic regurgitation.

Until now, our patient has survived in a functional class I and he is embolic event-free without surgical treatment. This event-free persistence, despite the huge and mobile intraluminal thrombus, makes this case unique. This clinical course implied a good prognosis with no need for surgical intervention.

* * *

**Funding sources:** The authors report no financial or other relationship relevant to the subject of this article.

**Authors' contribution:** All four authors contributed. VMP performed the first diagnosis, FP and BL followed consecutively the patient and furnished the images, and EP found the patient and wrote the article and English correction. AB followed the patient as a family doctor.

**Conflict of interest:** The authors declare no conflict of interest.

* * *

**Electronic Supplementary Material (ESM)**

Electronic Supplementary Material (ESM) associated with this article can be found at the website of IMAS at http://www.akademiai.com/content/121666

**Supplementary Video 1.** Right parasternal echocardiographic window S-A video showing the mobility of the huge and tunneled thrombus inside the aneurysm

**References**

1. Hagan PG, Nienaber CA, Isselbacher EM, Bruckman D, Karavite DJ, Russman PL, Evangelista A, Fattori R, Suzuki T, Oh JK, Moore AG, Malouf JF, Pape LA, Gaca C, Sechtem U, Lenferink S, Deutsch HJ, Diedrichs H, Marcos y Robles J, Lllover A, Gilon D, Das SK, Armstrong WF, Deeb GM, Eagle KA: The International Registry of Acute Aortic Dissection (IRAD): new insights into an old disease. JAMA 283, 897–903 (2000)

2. Hamamoto M, Kobayashi T, Kodama H: Painless redissection of the ascending aorta after complete resolution of the thrombosed false lumen: a case report. Ann Vasc Dis 6(4), 745–747 (2013)

3. Al-Ebrahim KE: A huge ascending aortic aneurysm bigger than the heart size. Eur J Cardiothorac Surg 36(1), 186 (2009)

4. Goebel V, Banz Y, Kaeberich A, Carrel T: Huge aneurysm of the ascending aorta in a patient with adult-type Pompe's disease: histological findings mimicking fibrillinopathy. Eur J Cardiothorac Surg 43(1), 193–195 (2013)

5. Ren S, Sun G, Yang Y, Liu P: Management of concomitant large aortic aneurysm and severe stenosis of aortic arc. Ann Thorac Cardiovasc Surg 20(1), 84–87 (2013)

6. Kitahara H, Uchino G, Hayashi K: A huge aortic arch aneurysm in a non-Marfan elderly patient. Eur J Cardiothorac Surg 44(4), e309 (2013), doi: 10.1093/ejcts/ezt344

7. Demirkol S, Balta S, Ululu M, Karaman B: Case images: huge ascending aortic aneurysm. Turk Kardiyol Dern Ars 40(8), 746 (2012)

8. Ceresa F, Sansone F, Zagarella G, Patane F: Huge ascending aorta and aortic arch aneurysm in ultra octogenarian. G Chir 35(3–4), 78–79 (2014)