

PAINLESS AORTIC DISSECTION IN A HEALTHY 42-YEAR-OLD MAN WITHOUT RISK FACTORSSawssane Khalloud*¹, Hajar El Quartassi¹, Ilyass Asfalou¹, Younes Moutakillah² and Aatif Benyass¹¹Department of Cardiovascular Medicine, Military Hospital of Instruction Mohammed V Rabat, Avenue Des FAR Hay Riyad, 10100 Rabat, Morocco.²Department of Cardiovascular Surgery, Military Hospital of Instruction Mohammed V Rabat, Avenue Des FAR Hay Riyad, 10100 Rabat, Morocco.***Corresponding Author: Dr. Sawssane Khalloud**

Department of Cardiovascular Medicine, Military Hospital of Instruction Mohammed V Rabat, Avenue Des FAR Hay Riyad, 10100 Rabat, Morocco.

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ABSTRACT

Aortic dissection is an acute aortic syndrome described as "lightning bolt in a clear sky". It's a vascular emergency that if not diagnosed and treated in a timely manner can result in death. Classically, aortic dissection presents as sudden, severe chest, back, or abdominal pain that is characterized as ripping or tearing in nature. However, several cases with atypical symptoms have been reported. We present a 42 year old male with no significant past medical history presented to the Emergency Department with a progressive shortness of breath and weakness over three days with no chest pain. The patient was clinically stable with normal electrocardiogram and negative troponin. Consequently, he was discharged from the Emergency Department. Ten days later, he consulted a cardiologist for persistent dyspnea. A transthoracic echocardiogram was performed and revealed an aneurysm of the thoracic aorta measuring 61 mm in diameter, type A aortic dissection extending from the sinus of Valsalva to the subrenal aorta, severe aortic regurgitation and pericardial effusion. The patient underwent immediate Bentall surgery, and ultimately had a successful outcome.

KEYWORDS: Acute aortic dissection, Atypical symptoms, Chest pain, Dyspnea.**INTRODUCTION**

Acute aortic dissection (AAD) is uncommon but complications including fatality are common.^[1] The symptoms of acute aortic dissection may vary. Most patients complain of an abrupt onset of severe pain in the chest, back, or abdomen.^[2] However, several documented cases have atypical features that make diagnosis difficult.^[3-4] We present an unusual case of acute painless aortic dissection, with a progressive shortness of breath and weakness, in a young patient without risk factors, diagnosed late on transthoracic echocardiogram.

CASE REPORT

A 42-year-old male with no significant past medical history presented to the Emergency Department with a progressive shortness of breath and weakness over three days. No associated chest pain, palpitations, or syncope are noted. The patient denies any associated cough, hemoptysis or fever. The clinical examination found a clinically stable patient. The chest X-ray, electrocardiogram, and laboratory investigations including brain natriuretic peptide (BNP), cardiac troponin and D-dimer were all normal.

Consequently, he was discharged from the emergency department. Ten days later, he consulted a cardiologist for persistent dyspnea. Vitals signs were : a wide pulse pressure with 120/30 mmHg on the right arm, and 126 /40 mmHg on the left one, heart rate of 74 beats/minute, respiratory rate of 18 breaths/minute and temperature of 36.7°C. Cardiovascular examination revealed a diastolic murmur at the left lower sternal border and arterial hyperpulsatility. Lung auscultation revealed reduced vesicular breath sounds. The rest of physical examination was normal.

Electrocardiogram showed microvoltage with sinus rate at 80 beats/minute, rare supraventricular premature complexes and nonspecific ST-segment, T-wave changes. The chest X-ray showed an enlarged cardiac silhouette. He underwent transthoracic echocardiography which revealed an aneurysm of the thoracic aorta measuring 61 mm in diameter, an intimal flap extended from the sinus of Valsalva to the subrenal aorta, severe aortic regurgitation and moderate pericardial effusion (*figure 1*).

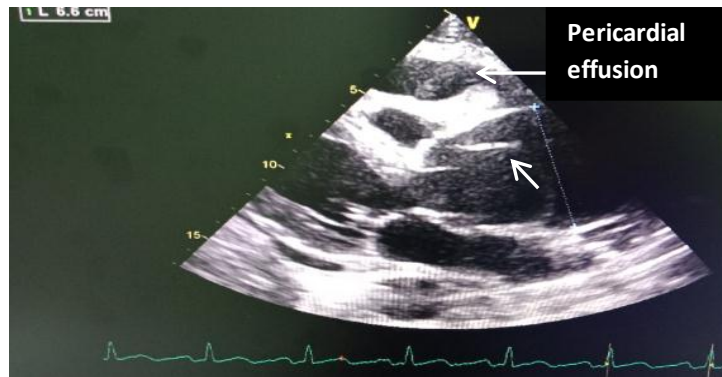


Figure 1 : Transthoracic echocardiography showing the dissection flap in the Valsalva sinus (marked by arrow), pericardial effusion and the aortic aneurysm.

A thoracoabdominal computed tomography with contrast was performed confirming the Stanford type A aortic dissection extending from the aortic valve to the level of the subrenal aorta, complicated by moderate pericardial effusion and bilateral pleural effusion (*figure2-3*). The patient was sent for urgent cardiothoracic surgery and

underwent a composite graft replacement of the aortic valve, aortic root, and ascending aorta, with reimplantation of the coronary arteries into the graft (Bentall procedure). The patient did well post-surgery without complication.

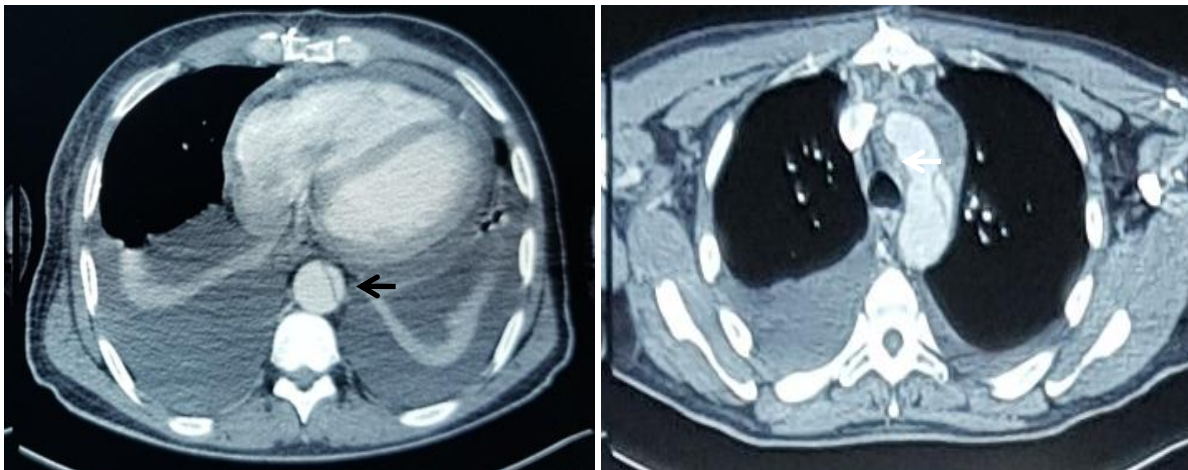


Figure 2: Computed tomography scan with contrast with transverse plane showing dissection across the thoracic aorta (arrows).

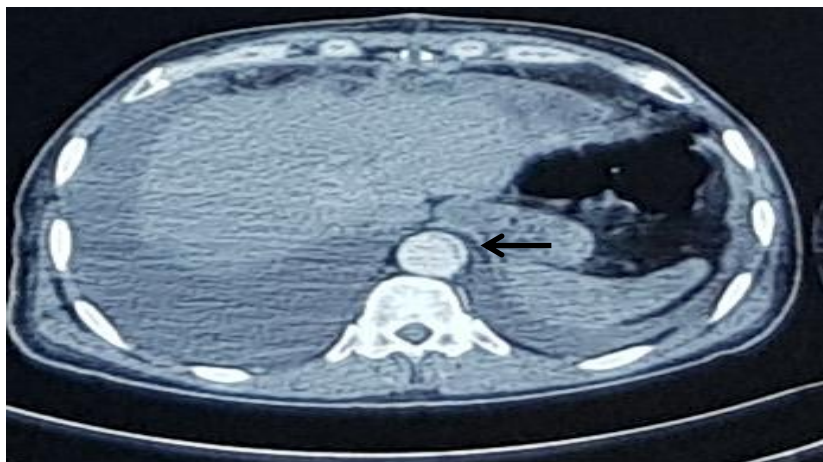


Figure 3: Computed tomography scan with contrast with transverse plane showing dissection across the abdominal aorta (arrow).

DISCUSSION

The incidence of acute aortic dissection is between 2.6 to 3.5 per 100 000 person-years, while in-hospital mortality is 27.4%.^[5-6] The Stanford classification system defines two types of aortic dissection, type A which involving the ascending aorta and type B limited to the aorta distal to the left subclavian artery. This disease is most commonly reported in sixth to eighth decade of life and is predominant in men.^[7] Major risk factors include increasing age, hypertension, diabetes mellitus, atherosclerosis, and renal failure.^[8] Our case illustrates that infection remains possible in young and healthy persons without risk factors.

Chest pain is one of the most common symptoms in aortic dissection and its absence makes the diagnosis difficult for the clinician. It's classically described as sudden onset of tearing chest pain, often in the interscapular region and may be associated with syncope, dyspnea, diaphoresis, and weakness.^[7] One study found that about 71% of patients with type A dissections presented with anterior chest pain while 6% did not have any pain.^[9] Atypical presentations of aortic dissections have been reported in several case reports.^[10-11] A 53-year-old male presented to Emergency department with few hours of sore throat was initially discharged after 1 hour of observation; he returned 10 hours later with sore throat and severe chest pain and was noted to have a widened mediastinum on chest radiograph and subsequent CT was found to have proximal aortic dissection and later died during surgical intervention.^[11] In one case report, a patient presented with severe diarrhea and was finally diagnosed with AAD.^[12]

A 25-year-old male without any complaints of pain presented with cough, fever, pink sputum, and shortness of breath and later after repeat echocardiogram on the second hospital day was noted to have an ascending aortic dissection with successful surgical intervention.^[13]

In the cases mentioned above, the patients were young and without any risk factors to suggest aortic dissection. The initial complaints of the patients also do not suggest cardiovascular system pathology. In the presented case, the patient was also young without major risk factor and presented with dyspnea and weakness with no chest pain. For this reason, the time from admission to a definite diagnosis was significantly longer.

Usually, there are two major problems in making a diagnosis of AAD. The first problem is being able to distinguish AAD from an acute myocardial infarction in patients having chest or back pain.^[14-15] A rapid distinction between these 2 diseases is important since minimizing the time to the initiation of reperfusion therapy leads to a maximum benefit for an acute myocardial infarction, while erroneous reperfusion therapy for AAD can produce harmful outcomes. The second problem is identifying patients who have

painless AAD and providing the appropriate treatment without delay.^[16]

CONCLUSION

Atypical presentation of aortic dissection without chest pain may be more frequent than previously reported. Compared with painful AAD, patients with painless AAD have a higher morbidity and mortality because of the delay in diagnosis and management. Clinicians should remember this atypical presentation of AAD, especially with symptoms of dyspnea and do not hesitate to perform a transthoracic echocardiogram at the slightest suspicion of a type A aortic dissection because it is easy to perform and has a non-negligible sensitivity and specificity.

CONFLICT OF INTEREST AND SOURCE OF FUNDING

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