

Giant Ascending Aortic Aneurysm Mimicking Acute Coronary Syndrome

Mariama Akodad, Thomas Gandet, Youcef Lounes, Corentin Curinier, François Roubille

Mariama Akodad, Corentin Curinier, François Roubille, Intensive cardiac care unit department, Montpellier University Hospital, France

Thomas Gandet, Youcef Lounes, Department of Cardiovascular surgery, Montpellier University hospital, France

Correspondence to: François Roubille, MD, PhD, Intensive care unit department, Montpellier University Hospital, France

Email: francois.roubille@gmail.com

Telephone: +33-467336733 Fax: +33-467415242

Received: January 30, 2015 Revised: March 13, 2015

Accepted: March 18, 2015

Published online: June 10, 2015

ABSTRACT

A 70-year-old patient was admitted in our center for acute coronary syndrome but investigations revealed a giant ascending aortic aneurysm without dissection. The patient was successfully treated with a Bentall procedure, usually challenging in the case of giant aneurysm, because of the risk of preoperative injury.

© 2015 ACT. All rights reserved.

Key words: Giant aortic aneurysm; Chest pain; Acute coronary syndrome; Bentall procedure

Akodad M, Gandet T, Lounes Y, Curinier C, Roubille F. Giant Ascending Aortic Aneurysm Mimicking Acute Coronary Syndrome. *Journal of Cardiology and Therapy* 2015; 2(3): 334-335 Available from: URL: <http://www.ghrnet.org/index.php/jct/article/view/1212>

INTRODUCTION

Ascending aortic aneurysm are frequently asymptomatic and discovered on routine exams. Symptoms can occur in case of voluminous aneurysm linked with adjacent organs compression or with complications as dissection or rupture. We report here an

unusual presentation of a non complicated voluminous ascending aortic aneurysm, considered initially as an acute coronary syndrom.

CASE REPORT

We describe a 70-year-old man with no past medical history who was admitted for acute chest pain. There was no significant family history. On physical examination, blood pressure was 110/60 mmHg, cardiac pulse was regular at 100/min. An aortic diastolic murmur was noticed.

The electrocardiogram was normal and troponin T was elevated to 100 ng/L (N<14 ng/L). He initially met the criteria for acute coronary syndrome. Chest X-ray showed a widened mediastinum (Figure 1A).

Bedside echocardiography was promptly performed and revealed a large ascending aortic aneurysm accompanied by severe aortic regurgitation in the tricuspid aortic valve and an important left ventricular enlargement (Figure 1B). The ejection fraction was preserved.

A computed tomography scan corroborated the diagnosis of an ascending aortic aneurysm and excluded any aortic dissection. The aortic aneurysm included aortic root, involved the ascending aorta with a maximum transverse aortic diameter of 84mm and extended up to the origin of the innominate artery (Figure 1C and D). A coronary CT scan did not reveal any significant lesions in the coronary arteries.

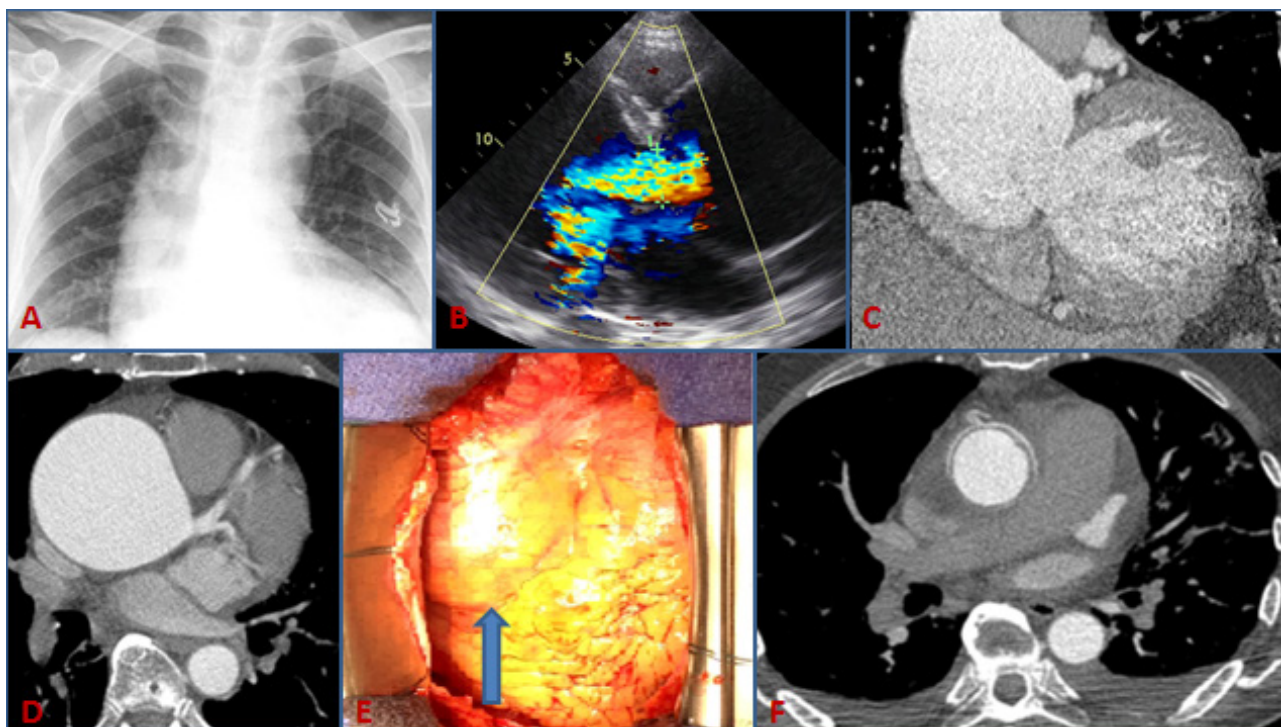
The patient underwent successful emergent surgical treatment with Bentall procedure (Figure 1E).

The postoperative course was uneventful and the patient was discharged home 9 days later after a reassuring CT scan control (Figure 1F).

DISCUSSION

Aortic aneurysm are rare before 50 years of age and the most common factor of thoracic aortic aneurysm is arteriosclerosis in the older population^[1].

The thoracic aortic aneurysm size increases at a rate of 0.1 cm/



Figures 1 A: Chest X-ray showing a widened mediastinum; B: Transthoracic echocardiography with severe aortic regurgitation, aortic root aneurysm and left ventricular enlargement; C, D: Voluminous ascending aortic aneurysm on thoracic CT scan; E: Operative view of the aneurysm; F: Post operative control after Bentall procedure.

year^[2] which determines the natural history. Similarly, the incidence of complications increases importantly at a thoracic ascending aortic aneurysm size of 6 cm^[2] and incidence of death remains very high in case of complications. The most important factor of complication is the size of the aneurysm.

Frequently, ascending aortic aneurysms are asymptomatic and are discovered on chest X-ray, chest scan or echocardiography. Rarely, when the aneurysm is voluminous, patient can present with symptoms of compression of adjacent structures including the trachea/bronchi and the esophagus^[3] or complications as acute aortic dissection or rupture.

To our knowledge, no cases of giant aortic aneurysm have been reported, especially when mimicking acute coronary syndrome without any associated aortic dissection.

The clinical presentation is extremely variable and usually resulting in compression of adjacent organs more than in acute coronary syndrome.

Echocardiography plays a major role in the diagnosis of acute coronary syndrome without ST segment elevation because of the risk of mistake in case of alternative diagnosis.

In our case, before performing the echocardiography, the patient could be treated as an acute coronary syndrome, which would be dangerous because of the use of antiplatelet agent leading to an increased hemorrhagic risk.

The surgical treatment is the treatment of choice and should be performed rapidly in order to prevent complications, overall if the aneurysm is symptomatic.

However, the surgery is more difficult in case of giant thoracic aneurysm because the aneurysm wall is often contiguous to the sternum. In this case, the sternotomy can be very dangerous because of the risk of injury. In our case, there were no preoperative injury.

CONCLUSION

Giant ascending aneurysm is a rare entity because the risk of complications is very important after a size of 6 cm. Moreover, the incidentally discover is frequent with the use of chest exams.

Presentation as an acute coronary syndrome is rare and all patients with a non ST elevation acute coronary syndrome should be evaluated carefully in order to avoid complications in case of alternative diagnosis as acute aortic syndrome.

Surgical treatment is challenging and traditionally at high risk of mortality.

CONFLICT OF INTERESTS

There are no conflicts of interest with regard to the present study.

REFERENCES

1. Isselbacher EM. Thoracic and abdominal aortic aneurysms. *Circulation*. 2005; 111:816–28.
2. Elefteriades John A. Natural history of thoracic aortic aneurysms: indications for surgery, and surgical versus nonsurgical risks. *Ann Thorac Surg* 2002;74:S1877–80
3. Spittell JA Jr. Clinical aspects of aneurysmal disease. *Curr Probl Cardiol*. 1980; 5:1–36.

Peer reviewers: Carlos Escobar, Department of Cardiology, hospital La Paz, Paseo de la Castellana 261, 28046, Madrid, Spain; Sung Oh Hwang, MD, PhD, Professor, Department of Emergency Medicine, Yonsei University Wonju College of Medicine, 162 ilsandong, Wonju 220-701, Republic of Korea.