

## Giant Pseudoaneurysm of Ascending Aorta

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### Abstract

Aortic pseudoaneurysms are rare, life-threatening complication that usually occurs after cardiac or aortic surgery. In most cases, pseudoaneurysms of the ascending aorta are asymptomatic. We report the case of a 54-year-old Brazilian man, asymptomatic, who presented with a giant pseudoaneurysm of the ascending aorta, without previous history of cardiac surgery. The aneurysm size was 8.5 × 7.4 × 10.3 cm. The patient died on the sixth postoperative day due to infectious complications. In this case report, our objective is to discuss of aortic pseudoaneurysm, especially in an atypical case due to exuberance in the clinical manifestation.

**Keywords:** Aorta, Pseudoaneurysm, Management

### Introduction

Aortic pseudoaneurysms result from disruption of the intima and media of a vessel. They are contained by the adventitia and surrounding structures of the mediastinum [1]. The incidence of ascending aortic pseudoaneurysm is rare (<1%) and mortality is high [2-4]. In most cases, ascending aortic pseudoaneurysms are asymptomatic.

### Case Report

In October 2015, a 54-year-old Brazilian man, hypertensive 10 years ago and smoker 20 years ago, arrived at the hospital with a 2-year history of mass with progressive increase initially located in a region of furcular sternal and extending later to the left cervical region (Figure 1, panel A and B). He denied any other symptoms, chest trauma, surgery or genetic disorders.

A chest computed tomography (scout view) with contrast agent showed a mediastinal enlargement with accentuation of the contours forming a shadow (Figure 1, arrows in panel C), and a giant pseudoaneurysm of the ascending aorta in axial (Figure 2, Panel A to C) and sagittal (Figure 2, panel D) reconstructing with deviation of trachea and erosion of retrosternal bony structures, a massive pseudoaneurysm of the ascending aorta, measuring in its largest axes 8.5 × 7.4 × 10.3 cm and showing a proximal right and wide neck, measuring 3.7 cm and distal neck measuring 1.6 cm.

The surgery was performed with great technical difficulty. Before sternotomy, cardiopulmonary bypass (CPB) was instituted by means of right femoral artery perfusion and right femoral venous drainage. Hypothermic circulatory arrest was established. During sternotomy, noted destruction of the sternal manubrium and the presence of thrombus in the aortic arch. Made surgical repair with patch (Dacron), which was placed and fixed in the area of aortic rupture and removed the thrombus. CPB time was 135 minutes and circulatory arrest was 57 minutes. Unfortunately, the patient died 6 days after surgery due to septic shock secondary to nosocomial pneumonia.

### Discussion

Aortic pseudoaneurysms result from the rupture of the intima and media of a vessel. They are contained by the adventitia and surrounding structures of the mediastinum [1].

The incidence of ascending aortic pseudoaneurysm is rare (<1%), and usually results from complications of cardiac surgery in which the ascending aorta is cannulated or incised. Other possible causes are infection, genetic disorders or trauma, but a large percentage is due to mechanical rupture of sutures in the aorta [1,5].

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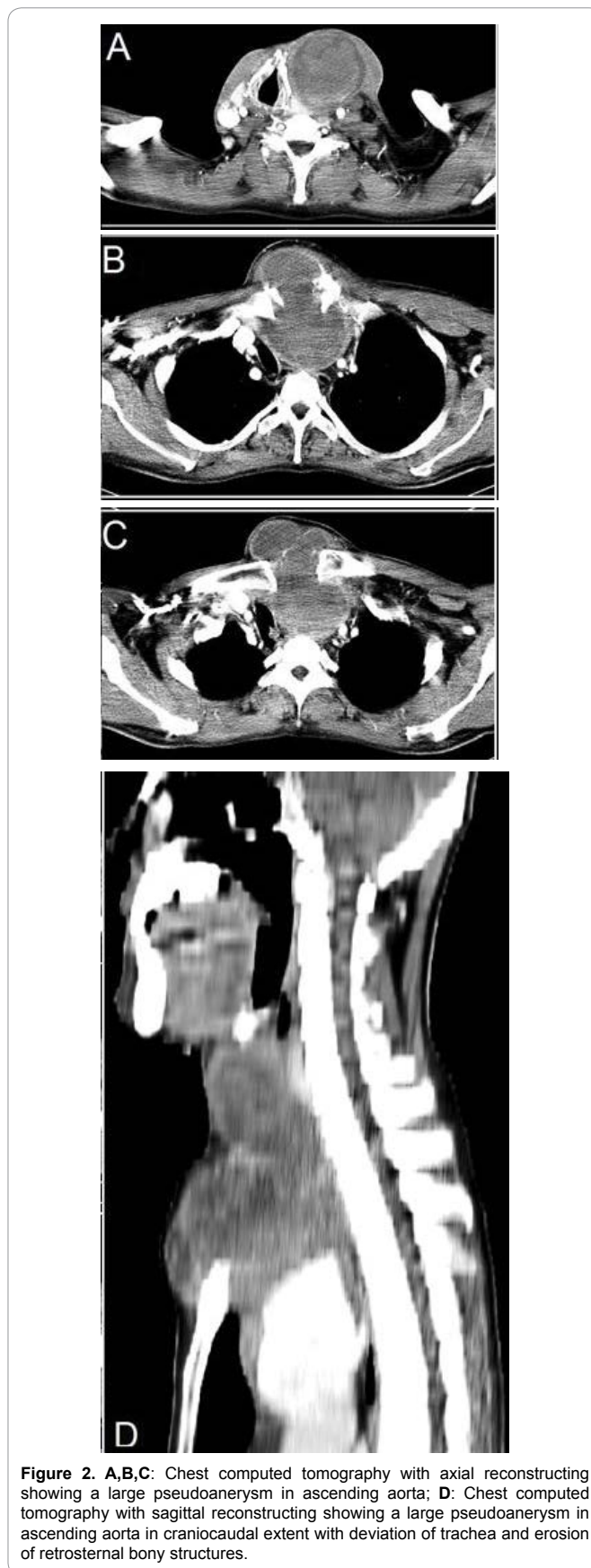


In most cases, as in this case, the pseudoaneurysms of the ascending aorta are asymptomatic. A simple chest x-ray may detect enlargement of the mediastinum and the diagnosis can be confirmed with computed tomography and echocardiogram [6].

The risk of rupture of pseudoaneurysms should be taken into account, especially of large masses, to indicate emergency treatment [5]. Despite reports of percutaneous exclusion of false aneurysms, surgery is still required for most cases [7,8].

From the surgical point of view, the treatment of pseudoaneurysms of the ascending aorta remains a challenge. The mortality presented by several authors ranges from 29 to 46%, being in most cases, as a result of fatal hemorrhage, due to rupture of the pseudoaneurysm during surgical maneuvers for its treatment [3,4].

In this case, the surgery was successful, but the patient died of septic shock secondary to nosocomial pneumonia.



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## Disclosure Statement

The authors have no conflicts of interest to disclose.

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