

Saccular Aneurysm at the Aortic Isthmus

Sofia Martìn-Suàrez, MD, Andrea Dell'Amore, MD, Davide Pacini, MD, Emanuela Angeli, MD, Antonino Loforte, MD, Guido Oppido, MD, and Roberto Di Bartolomeo, MD

Department of Cardiac Surgery, Policlinico S. Orsola, University of Bologna, Bologna, Italy



Fig 1.

We present a rare case of an aortic isthmus aneurysm in a 28-year-old female patient with left aortic arch and downward displaced origin of the left subclavian artery. The patient was completely asymptomatic with no detected concomitant pathologies and no reported prior trauma. Laboratory data of either syphilitic or other microbial infections were negative. The aneurysm was accidentally revealed by a chest roentgenogram (Fig 1), which showed a spherical opacity with a clear edge emerging from the aortic arch profile.

The diagnosis was confirmed by angiographic computed tomographic scan (Fig 2A), angiographic magnetic resonance image (Fig 2B) with 3-dimensional reconstruction (Fig 3), and angiography. These imaging techniques documented the presence of the aneurysm (continuous arrow) and the anomalous origin of the left subclavian artery arising from the concavity of the arch (dashed arrow).

Early surgery was preferred because of the young age of the patient and the morphology and size of the aneurysm (diameter, 45 mm). Left posterolateral thoracotomy through the fourth intercostal space disclosed a saccular aneurysm with a large neck and an extremely thin wall. Repair was carried out in continuous aorta perfusion with the support of a Biomedicus centrifugal pump connected to the left atrium and the aorta below the aneurysm [1]. The aortic isthmus was replaced with an 18-mm Dacron graft, and the left subclavian artery was reimplanted to the prosthesis with an 8-mm Dacron graft interposition. Aortic cross-clamp time was 30 minutes. Because there was no evident cause identified, a congenital origin was strongly suspected. Furthermore, microscopy demonstrated fibromuscular dysplasia and severe medial layer atrophy.

Address reprint requests to Dr Martìn-Suàrez, Cardiac Surgery Department, S. Orsola-Malpighi Hospital, Via Massarenti 9, University of Bologna, Bologna, Italy 40138; e-mail: docsofi@yahoo.com.

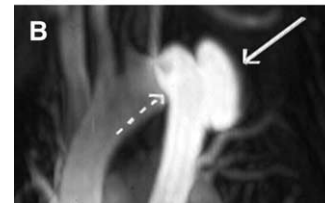
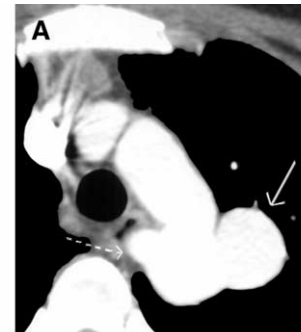


Fig 2.

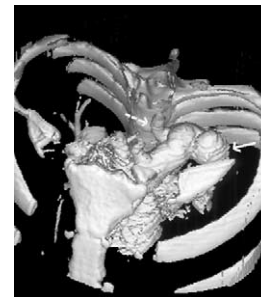


Fig 3.

The postoperative course was uneventful. In light of the high risk of rupture, which was proved to be present by the very thin aneurysm wall at the time of surgery, we suggest early surgical treatment of idiopathic saccular isthmus aneurysm in young patients regardless of aneurysm diameter.

Reference

1. Schepens MAM, Vermeulen FEE, Morshuis WJ, Dossche KM, et al. Impact of left heart bypass on the results of thoracoabdominal aortic aneurysm repair. *Ann Thorac Surg* 1999;67:1963-1967.