Images in Cardiac Surgery

AORTA

AORTA,August2016, Volume 4, Issue 4:146-147
DOI: http://dx.doi.org/10.12945/j.aorta.2016.15.039

Received: December 02, 2015
Accepted: April 02, 2016
Published online: August 2016

# Long-Term Survival After Composite Mechanical Aortic Root Replacement

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## Abstract

**This report describes the long-term follow-up of the repair of a giant ascending aneurysm using a composite graft with a mechanical valve.**

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## Key Words

**Aneurysm • Aortic • Ascending • Composite root**

A 55-year-old male presented with severe cardiac and renal failure ten years ago. Electrocardiogram (ECG) showed aortic root dilatation, severe aortic regurgitation, and left ventricular dysfunction. Chest computed tomography revealed an ascending aortic aneurysm larger than the heart, measuring 13.5 cm in the transverse diameter and 12 cm anteroposteriorly (Figure 1). Aortic root replacement using a size 33 composite graft and coronary reimplantation were performed. Ejection fraction, renal function, and general health gradually improved. This patient was followed-up for 10 years with no complications and has led a normal life. Recent chest computed tomography showed normal aortic root and coronary arteries (Figure 2). Right coronary implantation is shown in a colored three-dimensional image (Figure 3). This case demonstrates excellent longevity and freedom from reoperation in patients who undergo composite root replacement.

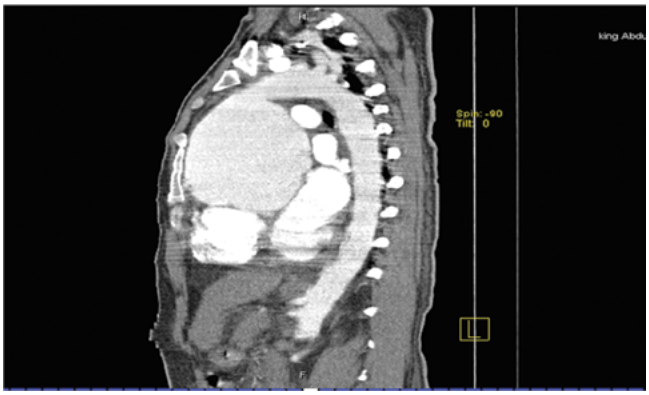

**Figure 1.** Preoperative computed tomography image showing a 13-cm ascending aortic aneurysm involving the sinuses of Valsalva.

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© 2016 AORTA
Published by Science International Corp.
ISSN 2325-4637

Accessible online at:
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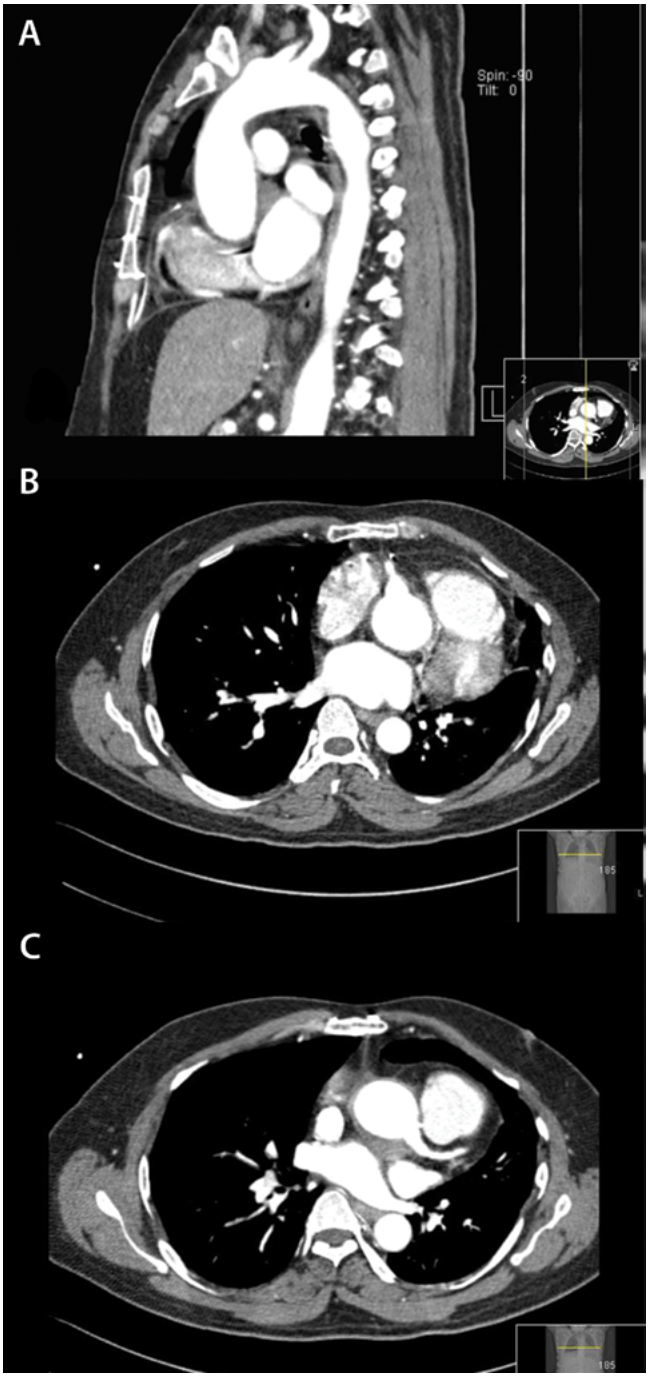


**Figure 2.** Postoperative computed tomography images obtained 10 years after surgery. *Panel A*. Sagittal section showing the neo-ascending aorta. *Panel B*. Coronal section showing the neo-right coronary artery. *Panel C*. Coronal section showing the neo-left coronary artery.

**Figure 3.** Postoperative computed tomography image obtained 10 years after surgery showing the ascending aorta and right coronary artery.

## Conflict of Interest

The authors have no conflict of interest relevant to this publication.

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**Cite this article as:** Al-Ebrahim KE, Jabbad HH, Alqari AH. Long-Term Survival After Composite Mechanical Aortic Root Replacement. AORTA (Stamford). 2016;4(4):146-147. DOI: http://dx.doi.org/10.12945/j.aorta.2016.15.039