

# Leaking Aortic Pseudoaneurysm Originating from the Left Main Coronary Artery Anastomosis: CT-Angio image and reality

Amnon Y. Zlotnick MD<sup>1</sup>, Tamar Gaspar MD<sup>2</sup>, Ronen Rubinshtein MD<sup>3</sup>, David Halon MD<sup>3</sup> and Amir Elami MD<sup>1</sup>

Departments of <sup>1</sup>Cardiothoracic Surgery, <sup>2</sup>Radiology and <sup>3</sup>Cardiology, Carmel Medical Center, affiliated with Rappaport Faculty of Medicine, Technion-Israel Institute of Technology, Haifa, Israel

**KEY WORDS:** aortic dissection, leaking aortic pseudoaneurysm, composite graft, Bentall operation, computed tomography angiography

*IMAJ* 2015; 17: 330–331

**P**seudoaneurysm of the ascending aorta after a composite graft operation (Bentall) is an uncommon postoperative complication [1-4].

A 44 year old man was admitted with acute severe chest pain. Four years previ-

ously he had undergone a modified Bentall operation for an ascending aortic aneurysm with severe aortic insufficiency. A chest computed tomography (CT) scan showed a 7 cm pseudoaneurysm of the aortic root [Figure 1A]. The origin of the leak feeding the pseudoaneurysm was identified precisely at the anastomosis of the left main coronary artery to the composite graft. A small niche at the cranial pole (toe) of the anastomosis was clearly demonstrated [Figure 1B].

At re-operation the Dacron graft was transected and a 1.5 mm fistula was found in the exact location pinpointed by the CT-angiogram at the upper pole of the anasto-

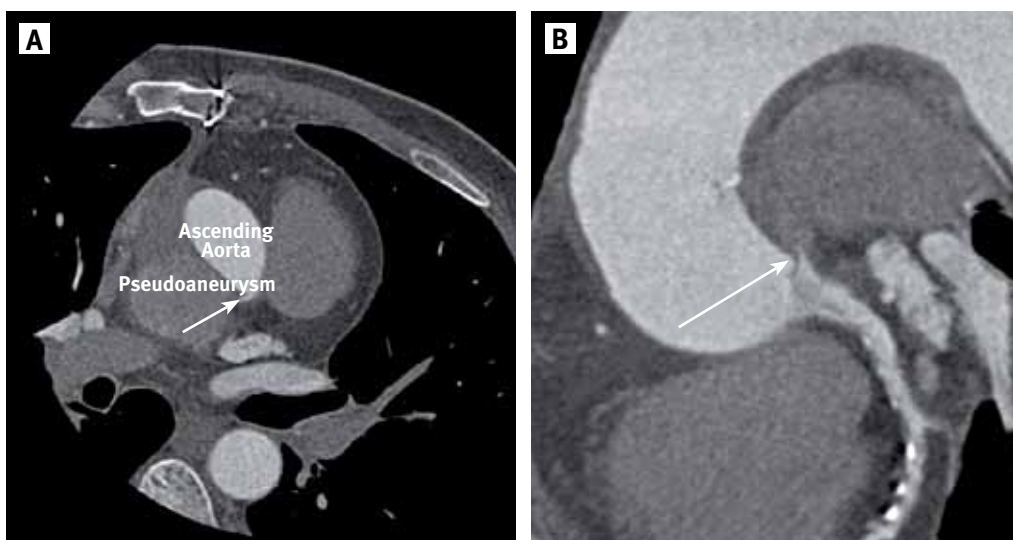
mosis of the left main coronary artery to the composite graft [Figure 2]. Direct repair of the fistula was performed, supported with an autologous pericardial strip. The post-operative course was uneventful and the patient was discharged home 5 days later.

This complication may have been prevented during the original operation by creating a smaller hole in the graft and constructing a completely tension-free anastomosis with the coronary artery button.

**Correspondence**

**Dr. A.Y. Zlotnick**  
Dept. of Cardiothoracic Surgery, Carmel Medical Center, Haifa 34362, Israel

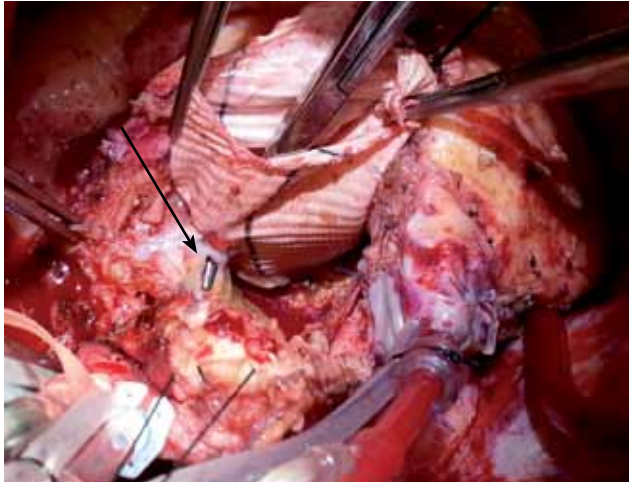
**Figure 1.**  
256-slice gated CTA of the chest



**[A]** Axial scan showing a large pseudoaneurysm of the aortic root with an obvious arterial leak feeding it (arrow).

**[B]** A curved multi planar reformation (MPR) along the LAD centerline, identifying the leak precisely at the anastomosis of the left main coronary artery to the aortic composite graft

**Figure 2.** Operative view of the transected composite graft with a tip of a fine surgical instrument through the fistula at the left main coronary artery anastomosis to the graft (arrow)



**Phone:** (972-4) 825-0256  
**Fax:** (972-4) 834-3554  
**email:** zlotnick\_a@clalit.org.il

### References

1. Bentall HH, De Bono A. A technique for complete replacement of the ascending aorta. *Thorax* 1968; 23: 338-9.
2. Dhakam S, Ahmeed H, Jafarani A. Percutaneous coronary intervention of left main pseudoaneurysm with customized covered stents. *Catheter Cardiovasc Interv* 2011; 77: 1033-5.
3. Ibe R, Bahktiari N, Davidson C, Hildick-Smith D, Lewis M. Large aortic pseudoaneurysm, from left coronary ostium, with aortopulmonary fistula 10 years after aortic root replacement for Type A aortic dissection. *Circulation* 2011; e580-2.
4. Tchanchaleishvili V, Abdullah I, Aranki SF. Left coronary artery anastomosis pseudoaneurysm after classic Bentall procedure. *J Invasive Cardiol* 2012; 24: 307-8.