

Saccular aneurysm within a persistent ductus arteriosus



Denise van der Linde, Maarten Witsenburg, Ingrid van de Laar, Adriaan Moelker, Jolien Roos-Hesselink

A 26-year-old man with a proven *SMAD3* mutation underwent cardiovascular assessment, because his 52-year-old mother died of an aortic dissection and his 28-year-old brother has an aortic root aneurysm of 41 mm. CT angiography showed a dilated pulmonary trunk (50 mm) and a saccular aneurysm of a persistent ductus arteriosus (figure A; see also webvideo 1). During catheterisation the pressure in the aneurysm was 75% of systemic arterial pressure. To prevent further enlargement and possible rupture, the aneurysm (18 mm × 14 mm) was filled with an Amplatzer Vascular Plug II (AGA Medical,

Plymouth, USA) (figure B and C; see also webvideo 2). A recently discovered syndromic form of aortic aneurysms and dissections with early-onset osteoarthritis, caused by pathogenic *SMAD3* mutations, is characterised by aneurysms, dissections, and tortuosity throughout the arterial tree, predominantly in the aortic root.¹ In our case, CT angiography was a useful screening method.

Reference

- 1 Van de Laar IM, Oldenburg RA, Pals G, et al. Mutations in *SMAD3* cause a syndromic form of aortic aneurysms and dissections with early-onset osteoarthritis. *Nat Genet* 2011; **43**: 121–26.

Lancet 2012; **379**: e33

Published Online
December 16, 2011
DOI:10.1016/S0140-6736(11)61352-4

Department of Cardiology
(D van der Linde MSc,
M Witsenburg MD,
Prof J Roos-Hesselink MD),
Department of Clinical Genetics
(I van de Laar MD), and
Department of Radiology
(A Moelker MD), Erasmus
Medical Centre, Rotterdam,
Netherlands

Correspondence to:
Prof Jolien Roos-Hesselink,
Department of Cardiology,
Erasmus Medical Centre,
Gravendijkwal 230, Rotterdam,
Netherlands
j.roos@erasmusmc.nl

See Online for webvideos

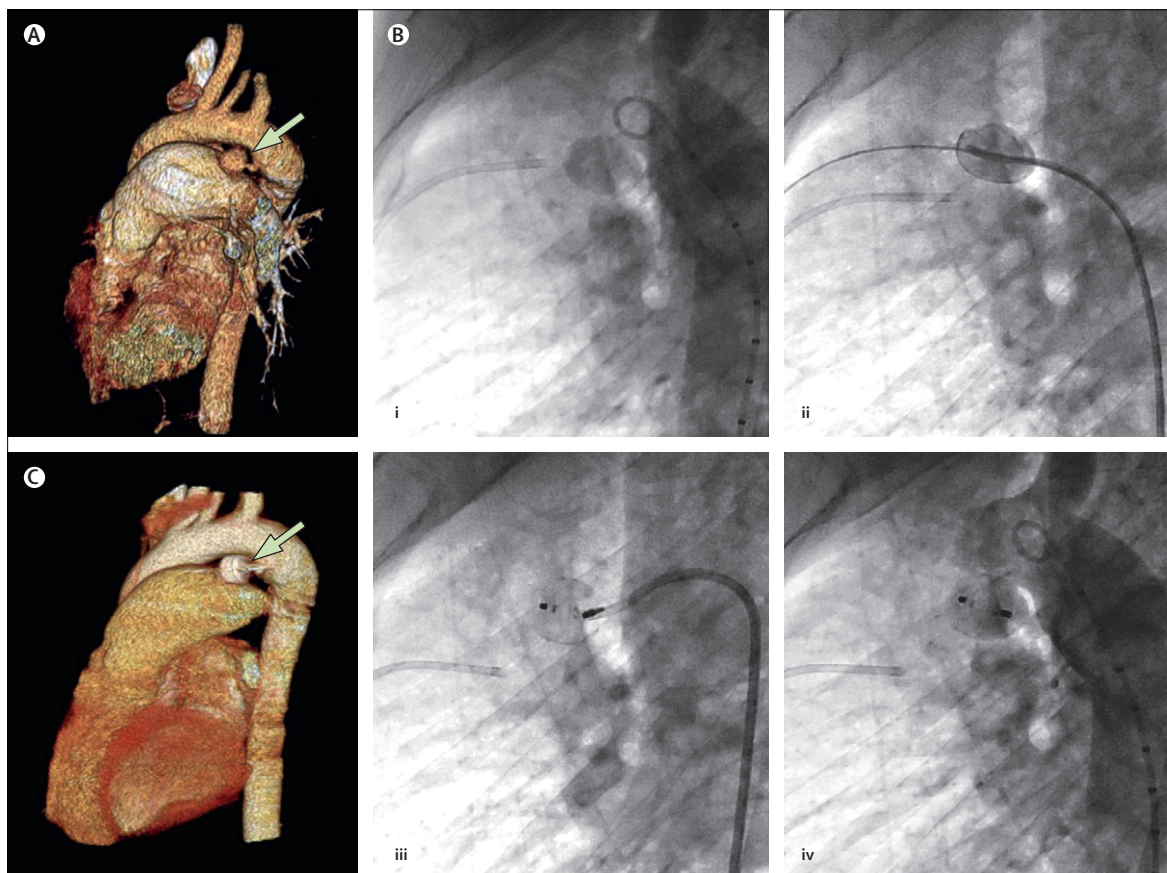


Figure: Saccular aneurysm within a persistent ductus arteriosus and placement of a vascular plug

(A) 3D reconstruction of CT angiography showing a dilated pulmonary trunk (50 mm) and a saccular aneurysm of a persistent ductus arteriosus (arrow). (B) Angiography images showing different stages of catheterisation: (i) aneurysm of the persistent ductus arteriosus (14 mm × 18 mm); (ii) catheter positioned within the aneurysm; (iii) delivery of the vascular plug (size 16 mm × 12 mm); (iv) closure of the persistent ductus arteriosus with the vascular plug in place. (C) 3D reconstruction of CT angiography showing the result after interventional closure of the aneurysm with a vascular plug (arrow).