

Images in Congenital Cardiac Disease

Central pulmonary thrombosis secondary to severe infection of a right ventricle-to-pulmonary artery conduit

Ioannis Dimarakis, Andreas Paschalis, Johann Andreas Hoschitzky

Department of Cardiothoracic Surgery, North-West Adult Congenital Heart Disease Unit, Manchester Royal Infirmary, Manchester, United Kingdom

Keywords: Fallot; endocarditis; conduit

Received: 5 July 2012; Accepted: 20 July 2012; First published online: 27 September 2012

A 21-YEAR-OLD ADULT PATIENT WITH TETRALOGY of Fallot presented acutely unwell with a 3-month history of general malaise following dental treatment. Following initial complete repair, he subsequently underwent two right ventricular outflow tract reconstructions with conduits. On admission, transthoracic echocardiography and peripheral blood cultures were suggestive of streptococcal endocarditis.

Sequential computed tomography pulmonary angiography demonstrated peripheral emboli with progressive central pulmonary artery filling defects suggestive of thrombi and potential vegetations (Fig 1a and b). Urgent surgery was performed for uncontrolled sepsis and increasing hypoxia. Peri-operative transesophageal echocardiogram confirmed previous findings (Fig 1c; Supplementary Video 1).

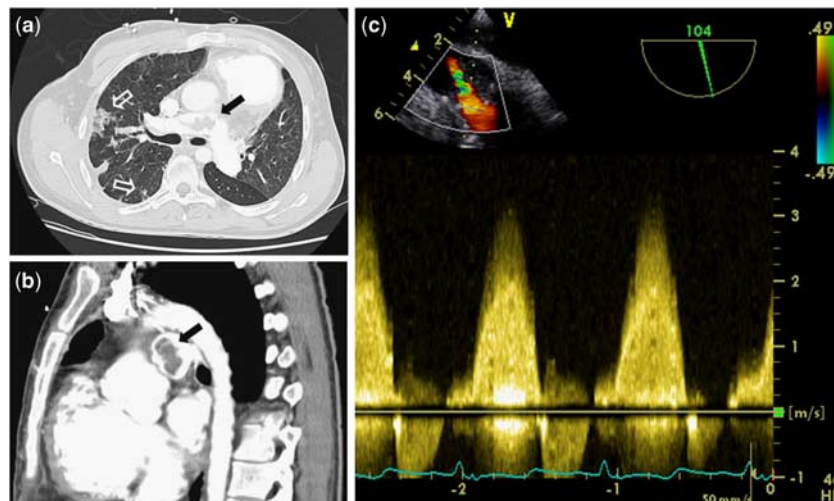


Figure 1.

(a and b) Computed tomography pulmonary angiography demonstrating peripheral septic emboli (white arrows) with filling defects in the right main pulmonary artery (black arrows) due to purulent debris and clot as seen intra-operatively. (c) Transesophageal echocardiography before the fourth sternotomy clearly showing high-velocity flow at the same level.

Having resected the conduit, we performed a peripheral pulmonary embolectomy and resected an abundance of the infected material from the pulmonary arterial tree under low-flow hypothermia; we then proceeded with a jugular venous valved conduit (Contegra[®], Medtronic Inc, Minneapolis, Minnesota, United States of America) replacement and tricuspid valve annuloplasty. He made a slow but steady recovery and was discharged home in good health.

Right ventricular outflow tract conduit endocarditis remains a rare event.¹ Prompt conduit replacement in challenging cases such as the one described remains our strategy of choice. Extra-corporeal membrane oxygenation may be utilised in the pre-operative period if cardio-respiratory failure ensues. Although

we had made provision for extra-corporeal membrane oxygenation availability intra/post-operatively, this was not necessary.

Supplementary materials

For supplementary material referred to in this article, please visit <http://dx.doi.org/doi:10.1017/S104795111200131X>

Reference

1. Dave H, Mueggler O, Comber M, et al. Risk factor analysis of 170 single-institutional Contegra implantations in pulmonary position. *Ann Thorac Surg* 2011; 91: 195–302; discussion 202–193.